



OTHER ROUTINE AFFECTED - WRITRT. AMENDMENTS IDENTIFIED BY  
COMMENT BUG9

THIS AMENDMENT CURES THE PROBLEM OF TWO POINT COPPER SHAPES  
BEING WRITTEN TO THE DATA STRUCTURE WHEN A COPPER SHAPE WAS  
REDUCED TO ZERO AREA BY 'MOVE SEG' IN 'MOD RT'. SEE THE  
BUG REPORT FILE FOR FURTHER DETAILS

MOD #1 TO CHANGE BUTTON 3 TO SIDES 750513 /HB  
MOD #2 TO INSERT WINDOW IN MOD RT 751028 /HB

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65 00002 R 740040 A MANRUT XX
66 00003 R 125364 E JMS* .DA
67 00004 R 600017 R JMP START1
68 00005 R 000000 A COMPAD 0 /COMPON(1)
69 00006 R 000000 A CONNAD 0 /CONNEX(1)
70 00007 R 000000 A EOCONN 0
71 00010 R 000000 A LIBAD 0 /LIB(1)
72 00011 R 000000 A ROUTAD 0 /ROUTES(1)
73 00012 R 000000 A EOROUT 0
74 00013 R 000000 A COPPAD 0 /COPPER (1)
75 00014 R 000000 A EOCOPP 0
76 00015 R 000000 A ZYDE 0
77 00016 R 000000 A N 0
78 00017 R 220011 R START1 LAC* ROUTAD
79 00020 R 145275 R DZM #MFLAG /#2 *****
80 00021 R 040011 R DAC ROUTAD
81 00022 R 200006 R LAC CONNAD
82 00023 R 044047 R DAC ARG4+3
83 00024 R 044113 R DAC CPEOCP+5
84 00025 R 044015 R DAC ARG1+3
85 00026 R 044211 R DAC RTOFRT+5
86 00027 R 041746 R DAC RARG6
87 00030 R 042605 R DAC WARG4
88 00031 R 723777 A AAC -1
89 00032 R 042221 R DAC CONPT / SET UP FOR SCAN
90 00033 R 360007 R TAD* EOCONN
91 00034 R 042222 R DAC ABSENC / ABS PTR TO 1ST FREE WORD IN CONN
92 00035 R 200007 R LAC EOCONN
93 00036 R 044016 R DAC ARG1+4
94 00037 R 044212 R DAC RTOFRT+6
95 00040 R 041747 R DAC RARG7
96 00041 R 042606 R DAC WARG5
97 00042 R 200012 R LAC EOROUT
98 00043 R 044014 R DAC ARG1+2
99 00044 R 044206 R DAC RTOFRT+2
100 00045 R 041743 R DAC RARG3
101 00046 R 042604 R DAC WARG3
102 00047 R 200005 R LAC COMPAD
103 00050 R 041110 R DAC ARG3+2
104 00051 R 043427 R DAC SARG1
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105 00052 R 200010 R C LIBAD
106 00053 R 043430 R DAC SARG2
107 00054 R 041111 R DAC ARG3+3
108 00055 R 200014 R LAC EOCOPP
109 00056 R 044046 R DAC ARG4+2
110 00057 R 044110 R DAC CPEOCP+2
111 00060 R 200015 R LAC ZYDE
112 00061 R 044310 R DAC SYDE
113 00062 R 145256 R DZM ARRFLG#
114 00063 R 160001 R START DZM* MSFLAG /BUG9
115 00064 R 220016 R LAC* N /BUG9
116 00065 R 545365 R SAD (3
117 00066 R 600113 R JMP DRAW5
118 00067 R 220000 R LAC* PUSBUT
119 00070 R 045274 R DAC MESS#
120 00071 R 652000 A LMQ
121 00072 R 205366 R LAC (YONE
122 00073 R 165274 R DZM* MESS
123 00074 R 125345 E JMS* MESS1
124 00075 R 125335 E JMS* BUTTON
125 00076 R 545367 R SAD (6
126 00077 R 600105 R JMP EX1
127 00100 R 545370 R SAD (2
128 00101 R 601305 R JMP DELETE
129 00102 R 545371 R SAD (4
130 00103 R 601442 R JMP SWOP
131 00104 R 600112 R JMP DRAW1 / DRAWALL, DRAW, CU
132 00105 R EX1 .WRITE 10,5,0,0
00105 R 005010 A *G CAL+5*1000 10&777
00106 R 000011 A *G 11
00107 R 000000 A *G 0
      *G .DEC
      *G -0
133 00110 R 000000 A *G
134 00111 R 620002 R JMP* MANRUT
135 /
136 00112 R 045257 R DRAW1 DAC BUTT#
137 00113 R 205256 R DRAW5 LAC ARRFLG
138 00114 R 740200 A SZA
139 00115 R 125340 E JMS* DFDEL
140 00116 R 600122 R JMP .+4
141 00117 R 005372 R .DSA (-11
142 00120 R 005373 R .DSA (0
143 00121 R 001270 R .DSA BUFF3
144 00122 R 145256 R DZM ARRFLG
145 00123 R 145264 R DZM CRSFLG#
146 00124 R 205374 R LAC (BUFF
147 00125 R 044107 R DAC CPEOCP+1
148 00126 R 044205 R DAC RTOFRT+1
149 00127 R 145260 R DZM CFLAG#
150 00130 R 145261 R DZM CFLAG2#
151 00131 R 220016 R LAC* N

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PAGE	4	MANRUT SRC	MANRUT	751117
152		00132 R 545365 R	SAD (3	
153		00133 R 601444 R	JMP MODFY	
154		00134 R 205257 R	LAC BUTT	
155		00135 R 545375 R	SAD (5	
156		00136 R 602051 R	JMP DRAWAL	
157		00137 R 545365 R	SAD (3	
158		00140 R 601410 R	JMP CU	
159			/	
160			/	
161			/	
162		00141 R 205274 R	DRAW LAC MESS	
163		00142 R 165274 R	DZM* MESS	
164		00143 R 652000 A	LMQ	
165		00144 R 205376 R	LAC (YTHREE	
166		00145 R 125345 E	JMS* MESS1	
167		00146 R 205377 R	LAC (???	
168		00147 R 044236 R	DAC XCROSS	
169		00150 R 044237 R	DAC YCROSS	
170		00151 R 145270 R	DZM FALG	
171		00152 R 445270 R	ISZ FALG	
172		00153 R 104240 R	JMS KEYS	
173		00154 R 045272 R	DAC KEYVAL* / STATUS OF BUTTONS	
174		00155 R 104214 R	JMS CROSS / POSITION CROSS	
175		00156 R 104240 R	JMS KEYS	
176		00157 R 245272 R	XOR KEYVAL	
177		00160 R 741200 A	SNA	
178		00161 R 600155 R	JMP .-4 / NO BUTTON HIT YET	
179		00162 R 245272 R	XOR KEYVAL	
180		00163 R 045272 R	DAC KEYVAL / NEW STATUS	
181		00164 R 125341 E	JMS* DFLPK	
182		00165 R 600167 R	JMP .+2	
183		00166 R 005370 R	.DSA (2 / LOOK FOR CONNEXION	
184		00167 R 741100 A	SPA	
185		00170 R 600063 R	JMP START	
186		00171 R 045266 R	DAC DISFAD / FOUND ONE	
187		00172 R 225266 R	LAC* DISFAD / POINTER TO D.S.	
188		00173 R 741000 A	SKP	
189		00174 R 740040 A	FINCON XX	
190		00175 R 723776 A	AAC -2	
191		00176 R 045311 R	DAC SCAN	
192		00177 R 744000 A	CLL	
193		00200 R 225311 R	LAC* SCAN	
194		00201 R 640511 A	LRS 11	
195		00202 R 045305 R	DAC PTR2* / POINTER TO OTHER COMP / 6	
196		00203 R 744010 A	RCL	
197		00204 R 345305 R	TAD PTR2	
198		00205 R 744010 A	RCL / *6	
199		00206 R 340005 R	TAD COMPAD	
200		00207 R 045267 R	DAC DISNO / ABS ADDR OF COMP.2	
201		00210 R 225267 R	LAC* DISNO / REL. PTR TO CONN	
202		00211 R 340006 R	TAD CONNAD	
203		00212 R 723777 A	AAC -1	

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204 00213 R 723003 A F AAC 3 LOOK FOR OTHER END CONNEXION
205 00214 R 045265 R DAC CSCAN*
206 00215 R 225265 R LAC* CSCAN
207 00216 R 505400 R AND (77777
208 00217 R 545266 R SAD DISFAD
209 00220 R 600223 R JMP .+3 / FOUND IT
210 00221 R 205265 R LAC CSCAN
211 00222 R 600213 R JMP FIND / NOT THIS TIME
212 00223 R 205265 R LAC CSCAN
213 00224 R 723776 A AAC -2
214 00225 R 045265 R DAC CSCAN
215 00226 R 744000 A CLL
216 00227 R 225265 R LAC* CSCAN
217 00230 R 640511 A LRS 11
218 00231 R 045304 R DAC PTR1* / POINTER TO COMP1 / 6
219 00232 R 205260 R LAC CFLAG
220 00233 R 740200 A SZA
221 00234 R 620174 R JMP* FINCON
222 /
223 / NOW GET X+Y POSITIONS FOR BOTH PADS
224 /
225 00235 R 225311 R LAC* SCAN
226 00236 R 640506 A LRS 6
227 00237 R 505401 R AND (7
228 00240 R 565344 E SAD* IWIDTH
229 00241 R 600274 R JMP NOCHEK /SAME WIDTH
230 00242 R 101047 R JMS DISWID
231 00243 R 205274 R LAC MESS
232 00244 R 652000 A LMQ
233 00245 R 205402 R LAC (YNINE
234 00246 R 165274 R DZM* MESS
235 00247 R 125345 E JMS* MESS1
236 00250 R 125335 E JMS* BUTTON
237 00251 R 545367 R SAD (6
238 00252 R 600271 R JMP NOCHEK-3
239 00253 R 545403 R SAD (1
240 00254 R 741000 A SKP
241 00255 R 600250 R JMP .-5
242 00256 R 225344 E LAC* IWIDTH
243 00257 R 660706 A ALSS 6
244 00260 R 652000 A LMQ
245 00261 R 225311 R LAC* SCAN
246 00262 R 505404 R AND (777077
247 00263 R 640002 A OMQ
248 00264 R 065311 R DAC* SCAN
249 00265 R 225265 R LAC* CSCAN
250 00266 R 505404 R AND (777077
251 00267 R 640002 A OMQ
252 00270 R 065265 R DAC* CSCAN
253 00271 R 205405 E LAC (JMS* DFDEL
254 00272 R 041173 R DAC CALL2+1
255 00273 R 101172 R JMS CALL2

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256 00274 R 104240 R NOCHEK JMS KEYS
257 00275 R 045272 R DAC KEYVAL
258 00276 R 104214 R JMS CROSS
259 00277 R 225311 R LAC* SCAN
260 00300 R 505406 R AND (??
261 00301 R 045276 R DAC NOD# / PIN NO. ON COMPT.1
262 00302 R 205304 R LAC PTR1
263 00303 R 101102 R JMS XY
264 00304 R 045325 R DAC X1 / D.S.
265 00305 R 641002 A LACQ
266 00306 R 045332 R DAC Y1 / UNITS
267 00307 R 225407 R LAC* (16
268 00310 R 640511 A LRS 11
269 00311 R 505365 R AND (3
270 00312 R 045313 R DAC SIDE1# / PAD SIDE FOR COMPT 1
271 /
272 /
273 00313 R 445311 R ISZ SCAN
274 00314 R 225311 R LAC* SCAN
275 00315 R 505406 R AND (??
276 00316 R 045276 R DAC NOD / PIN NO. ON COMPT.2.
277 00317 R 445311 R ISZ SCAN
278 00320 R 205305 R LAC PTR2
279 00321 R 101102 R JMS XY
280 00322 R 045326 R DAC X2 / D.S.
281 00323 R 641002 A LACQ
282 00324 R 045333 R DAC Y2 / UNITS
283 00325 R 225407 R LAC* (16
284 00326 R 640511 A LRS 11
285 00327 R 505365 R AND (3
286 00330 R 045314 R DAC SIDE2# / PAD SIDE FOR COMPT 2.
287 /
288 / FIND WHICH END IS NEARER CROSS
289 /
290 00331 R 204236 R LAC XCROSS
291 00332 R 740031 A TCA
292 00333 R 345325 R TAD X1 / WORKING IN D.S UNITS
293 00334 R 741100 A SPA
294 00335 R 740031 A TCA
295 00336 R 045273 R DAC LONG1#
296 00337 R 204237 R LAC YCROSS
297 00340 R 740031 A TCA
298 00341 R 345332 R TAD Y1
299 00342 R 741100 A SPA
300 00343 R 740031 A TCA
301 00344 R 345273 R TAD LONG1
302 00345 R 045273 R DAC LONG1 / DISTANCE TO PAD1
303 00346 R 204236 R LAC XCROSS
304 00347 R 740031 A TCA
305 00350 R 345326 R TAD X2
306 00351 R 740100 A SMA
307 00352 R 740031 A TCA

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PAGE	7	MANRUT	SRC	MANRUT	751117
308		00353	R 345273	R	LONG1
309		00354	R 045273	R	DAC LONG1
310		00355	R 204237	R	LAC YCROSS
311		00356	R 740031	A	TCA
312		00357	R 345333	R	TAD Y2
313		00360	R 740100	A	SMA
314		00361	R 740031	A	TCA
315		00362	R 345273	R	TAD LONG1 / DISTANCE 1 - DISTANCE2
316		00363	R 740100	A	SMA
317		00364	R 101056	R	JMS SWOP1 / NEARER PIN2
318					/
319					/
320					/
321		00365	R 145320	R	ENTRY DZM TYPE
322		00366	R 205374	R	LAC (BUFF
323		00367	R 065410	R	DAC* (17
324		00370	R 205325	R	LAC X1
325		00371	R 060017	A	DAC* 17
326		00372	R 205332	R	LAC Y1
327		00373	R 060017	A	DAC* 17
328		00374	R 144653	R	DZM BUFF
329		00375	R 444653	R	ISZ BUFF / BUFF=1
330		00376	R 101221	R	JMS ARROW
331		00377	R 205260	R	LAC CFLAG
332		00400	R 740200	A	SZA
333		00401	R 600410	R	JMP LOOP1 / START ANY SIDE IF COPPER
334		00402	R 205313	R	LAC SIDE1
335		00403	R 741200	A	SNA
336		00404	R 600410	R	JMP LOOP1 / ZERO-SO CAN START ANY SIDE
337		00405	R 564310	R	SAD* SYDE
338		00406	R 741000	A	SKP
339		00407	R 104305	R	JMS SWOPIT / ROUTE STARTS ON WRONG SIDE
340					/
341					/
342		00410	R 165274	R	LOOP1 DZM* MESS
343		00411	R 205274	R	LAC MESS
344		00412	R 652000	A	LMQ
345		00413	R 205411	R	LAC (YFOUR
346		00414	R 125345	E	JMS* MESS1
347		00415	R 100751	R	JMS CROSS1
348		00416	R 104240	R	JMS KEYS
349		00417	R 245272	R	XOR KEYVAL
350		00420	R 741200	A	SNA
351		00421	R 600415	R	JMP .-4 / NO BUTTON - CARRY ON
352		00422	R 045316	R	DAC STATUS#
353		00423	R 245272	R	XOR KEYVAL
354		00424	R 045272	R	DAC KEYVAL / NEW BUTTON STATUS
355		00425	R 205316	R	LAC STATUS
356		00426	R 545412	R	SAD (400000
357		00427	R 600441	R	JMP CORNER / INSERT CORNER
358		00430	R 545413	R	SAD (200000
359		00431	R 600476	R	JMP FINISH / FINISH

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360 00432 R 545414 R SAD (100000
361 00433 R 600456 R JMP ANGLE / CHANGE TO ANGLED TRACKING
362 00434 R 545415 R SAD (40000
363 00435 R 600463 R JMP THRU
364 00436 R 545416 R SAD (20000
365 00437 R 600576 R JMP WINDOW
366 00440 R 600570 R JMP ABORT / REPLACE CONNEX
367 00441 R 444653 R CORNER ISZ BUFF
368 00442 R 205053 R LAC BUFF1
369 00443 R 545417 R SAD (37
370 00444 R 600570 R JMP ABORT
371 00445 R 225410 R LAC* (17
372 00446 R 723003 A AAC 3
373 00447 R 065410 R DAC* (17
374 00450 R 145320 R DZM TYPE
375 00451 R 205327 R LAC X3
376 00452 R 045325 R DAC X1
377 00453 R 205334 R LAC Y3
378 00454 R 045332 R DAC Y1
379 00455 R 600410 R JMP LOOP1
380 00456 R 205320 R ANGLE LAC TYPE
381 00457 R 750100 A SMA!CLA
382 00460 R 723777 A AAC -1
383 00461 R 045320 R DAC TYPE
384 00462 R 600410 R JMP LOOP1
385 00463 R 205260 R THRU LAC CFLAG
386 00464 R 740200 A SZA
387 00465 R 600410 R JMP LOOP1
388 00466 R 204653 R LAC BUFF
389 00467 R 545403 R SAD (1
390 00470 R 741000 A SKP / FIRST SEGMENT
391 00471 R 600474 R JMP .+3
392 00472 R 205313 R LAC SIDE1
393 00473 R 741200 A SNA
394 00474 R 104305 R JMS SWOPIT
395 00475 R 600410 R JMP LOOP1
396 00476 R 205260 R FINISH LAC CFLAG
397 00477 R 740200 A SZA
398 00500 R 600507 R JMP OK
399 00501 R 205314 R LAC SIDE2
400 00502 R 741200 A SNA
401 00503 R 600507 R JMP OK
402 00504 R 564310 R SAD* SYDE
403 00505 R 741000 A SKP
404 00506 R 601120 R JMP ERROR / CANT FINISH THIS SIDE
405 00507 R 205320 R OK LAC TYPE
406 00510 R 741100 A SPA
407 00511 R 600532 R JMP END /ANGLED
408 00512 R 444653 R ISZ BUFF
409 00513 R 545403 R SAD (1
410 00514 R 600524 R JMP XSEG
411 00515 R 224310 R LAC* SYDE

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412 00516 R 060017 A DAC* 17
413 00517 R 205325 R LAC X1
414 00520 R 060017 A DAC* 17
415 00521 R 205333 R LAC Y2
416 00522 R 060017 A DAC* 17
417 00523 R 600532 R JMP END
418 00524 R 224310 R XSEG LAC* SYDE
419 00525 R 060017 A DAC* 17
420 00526 R 205326 R LAC X2
421 00527 R 060017 A DAC* 17
422 00530 R 205332 R LAC Y1
423 00531 R 060017 A DAC* 17
424 00532 R 224310 R END LAC* SYDE
425 00533 R 060017 A DAC* 17
426 00534 R 205326 R LAC X2
427 00535 R 060017 A DAC* 17
428 00536 R 205333 R LAC Y2
429 00537 R 060017 A DAC* 17
430 00540 R 444653 R THTSAL ISZ BUFF
431 00541 R 145270 R DZM FALG
432 00542 R 103761 R JMS PACK
433 00543 R 205260 R LAC CFLAG
434 00544 R 741200 A SNA
435 00545 R 600557 R JMP DELCR
436 00546 R 205053 R LAC BUFF1
437 00547 R 545370 R SAD (2
438 00550 R 741000 A SKP
439 00551 R 600557 R JMP DELCR
440 00552 R 104075 R JMS GETCOP
441 00553 R 205310 R GILL LAC RUTPTR
442 00554 R 652000 A LMQ
443 00555 R 205365 R LAC (3
444 00556 R 125342 E JMS* DRAWCP /DELETE FROM DISPLAY FILE
445 00557 R 205256 R DELCR LAC ARRFLG
446 00560 R 740200 A SZA
447 00561 R 125340 E JMS* DFDEL
448 00562 R 600566 R JMP .+4
449 00563 R 005372 R .DSA (-11
450 00564 R 005373 R .DSA (0
451 00565 R 001270 R .DSA BUFF3
452 00566 R 145256 R DZM ARRFLG
453 00567 R 600063 R JMP START
454 00570 R 205260 R ABORT LAC CFLAG
455 00571 R 740200 A SZA
456 00572 R 600553 R JMP GILL
457 00573 R 205267 R LAC DISNO / REPLACE COMPONENT
458 00574 R 125342 E JMS* DRAWCP
459 00575 R 600557 R JMP DELCR
460 /
461 00576 R 145270 R WINDOW DZM FALG
462 00577 R 444653 R ISZ BUFF
463 00600 R 225410 R LAC* (17

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464 00601 R 045271 R DAC IR17
465 00602 R 103761 R JMS PACK
466 .READ 10.6,XCROSS,0 /GET SCREEN POS OF CROSS
    00603 R 006010 A *G CAL+6*1000 10&777
    00604 R 000010 A *G 10
    00605 R 004236 R *G XCROSS
    *G .DEC
    00606 R 000000 A *G -0
467 00607 R 204236 R LAC XCROSS
468 00610 R 345420 R TAD (-777
469 00611 R 100727 R JMS DIV2 /DIVIDE BY SCALE
470 00612 R 045253 R DAC ADDR#
471 00613 R 365360 E TAD* X0
472 00614 R 065360 E DAC* X0
473 00615 R 205253 R LAC ADDR
474 00616 R 365357 E TAD* XU
475 00617 R 065357 E DAC* XU
476 00620 R 204237 R LAC YCROSS
477 00621 R 345420 R TAD (-777
478 00622 R 100727 R JMS DIV2
479 00623 R 045253 R DAC ADDR
480 00624 R 365363 E TAD* Y0
481 00625 R 065363 E DAC* Y0
482 00626 R 205253 R LAC ADDR
483 00627 R 365362 E TAD* YU
484 00630 R 065362 E DAC* YU
485 /
486 / NOW CHECK WINDOW LIMITS
487 /
488 00631 R 225357 E LAC* XU
489 00632 R 345421 R TAD (-2000
490 00633 R 741100 A SPA
491 00634 R 600644 R JMP .+10
492 00635 R 205422 R LAC (1777
493 00636 R 065357 E DAC* XU
494 00637 R 100727 R JMS DIV2
495 00640 R 740031 A TCA
496 00641 R 345422 R TAD (1777
497 00642 R 065360 E DAC* X0
498 00643 R 600653 R JMP .+10
499 00644 R 225360 E LAC* X0
500 00645 R 740100 A SMA
501 00646 R 600653 R JMP .+5
502 00647 R 165360 E DZM* X0
503 00650 R 205422 R LAC (1777
504 00651 R 100727 R JMS DIV2
505 00652 R 065357 E DAC* XU
506 00653 R 225362 E LAC* YU
507 00654 R 345421 R TAD (-2000
508 00655 R 741100 A SPA
509 00656 R 600666 R JMP .+10
510 00657 R 205422 R LAC (1777

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511 00660 R 065362 E DAC* YU
512 00661 R 100727 R JMS DIV2
513 00662 R 740031 A TCA
514 00663 R 345422 R TAD (1777
515 00664 R 065363 E DAC* Y0
516 00665 R 600675 R JMP REDROR /REDRAW PICTURE
517 00666 R 225363 E LAC* Y0
518 00667 R 740100 A SMA
519 00670 R 600675 R JMP REDROR
520 00671 R 165363 E DZM* Y0
521 00672 R 205422 R LAC (1777
522 00673 R 100727 R JMS DIV2
523 00674 R 065362 E DAC* YU
524 00675 R 750000 A REDROR CLA
525 00676 R 125342 E JMS* DRAWCP
526 00677 R 205275 R LAC MFLAG /#2 *****
527 00700 R 740200 A SZA /#2 *****
528 00701 R 601444 R JMP MODFY 45 /#2 *****
529 00702 R 205260 R LAC CFLAG
530 00703 R 741200 A SNA
531 00704 R 600707 R JMP .+3
532 00705 R 104075 R JMS GETCOP
533 00706 R 600712 R JMP .+4
534 00707 R 104175 R JMS DESTRY
535 00710 R 225311 R LAC* SCAN
536 00711 R 045266 R DAC DISFAD
537 00712 R 445270 R ISZ FALG
538 00713 R 103761 R JMS PACK
539 00714 R 204653 R LAC BUFF
540 00715 R 723777 A AAC -1
541 00716 R 044653 R DAC BUFF
542 00717 R 205271 R LAC IR17
543 00720 R 065410 R DAC* (17
544 00721 R 101221 R JMS ARROW
545 00722 R 205377 R LAC (777
546 00723 R 044236 R DAC XCROSS
547 00724 R 044237 R DAC YCROSS
548 00725 R 145264 R DZM CRSFLG
549 00726 R 600410 R JMP LOOP1
550 00727 R 740040 A DIV2 XX /SIGNED DIVISION BY SCALE
551 00730 R 145315 R DZM SIGN#
552 00731 R 740100 A SMA
553 00732 R 600735 R JMP .+3
554 00733 R 740031 A TCA
555 00734 R 445315 R ISZ SIGN
556 00735 R 652000 A LMQ
557 00736 R 225350 E LAC* SCALE
558 00737 R 040742 R DAC .+3
559 00740 R 754000 A CLL!CLA
560 00741 R 640323 A DIV
561 00742 R 000000 A 0
562 00743 R 205315 R LAC SIGN

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563      00744 R 740020 A      RAR
564      00745 R 641002 A      LACQ
565      00746 R 741400 A      SZL
566      00747 R 740031 A      TCA
567      00750 R 620727 R      JMP* DIV2
568
569
570
571
572      00751 R 740040 A      CROSS1 XX
573      00752 R 225410 R      LAC* (17
574      00753 R 045271 R      DAC IR17
575      00754 R 104214 R      JMS CROSS
576      00755 R 204236 R      LAC XCROSS
577      00756 R 045327 R      DAC X3#
578      00757 R 204237 R      LAC YCROSS
579      00760 R 045334 R      DAC Y3#
580      00761 R 205320 R      LAC TYPE
581      00762 R 741100 A      SPA
582      00763 R 601011 R      JMP TAG /ANGLED
583      00764 R 145320 R      DZM TYPE
584      00765 R 205325 R      LAC X1
585      00766 R 740031 A      TCA
586      00767 R 345327 R      TAD X3
587      00770 R 741100 A      SPA
588      00771 R 740031 A      TCA
589      00772 R 045273 R      DAC LONG1 /MOD(X3-X1)
590      00773 R 205332 R      LAC Y1
591      00774 R 740031 A      TCA
592      00775 R 345334 R      TAD Y3
593      00776 R 740100 A      SMA
594      00777 R 740031 A      TCA
595      01000 R 345273 R      TAD LONG1 /MOD(X3-X1)-MOD(Y3-Y1)
596      01001 R 741100 A      SPA
597      01002 R 601007 R      JMP .+5
598      01003 R 205332 R      LAC Y1 /DX .GE. DY
599      01004 R 045334 R      DAC Y3
600      01005 R 445320 R      ISZ TYPE
601      01006 R 601011 R      JMP TAG
602      01007 R 205325 R      LAC X1
603      01010 R 045327 R      DAC X3
604      01011 R 204653 R      TAG LAC BUFF /NO. OF POINTS
605      01012 R 744010 A      RCL
606      01013 R 344653 R      TAD BUFF /NO. OF WORDS
607      01014 R 345374 R      TAD (BUFF
608      01015 R 723777 A      AAC -1
609      01016 R 065407 R      DAC* (16
610      01017 R 224310 R      LAC* SYDE
611      01020 R 060016 A      DAC* 16
612      01021 R 205327 R      LAC X3
613      01022 R 060016 A      DAC* 16
614      01023 R 205334 R      LAC Y3

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615	01024	R	060016	A	ISZ* 16
616	01025	R	444653	R	ISZ BUFF
617	01026	R	103761	R	JMS PACK
618	01027	R	204653	R	LAC BUFF
619	01030	R	723777	A	AAC -1
620	01031	R	044653	R	DAC BUFF
621	01032	R	205271	R	LAC IR17
622	01033	R	065410	R	DAC* (17
623	01034	R	620751	R	JMP* CROSS1
624					/
625					/
626					/
627					/
628					/
629	01035	R	740040	A	GETWID XX
630	01036	R	750030	A	CLA! IAC
631	01037	R	045260	R	DAC CFLAG
632	01040	R	225266	R	LAC* DISFAD
633	01041	R	100174	R	JMS FINCON
634	01042	R	225311	R	LAC* SCAN
635	01043	R	640506	A	LRS 6
636	01044	R	505401	R	AND (7
637	01045	R	101047	R	JMS DISWID
638	01046	R	621035	R	JMP* GETWID
639					/
640					/
641					/
642					/
643					/
644	01047	R	740040	A	DISWID XX
645	01050	R	723060	A	AAC 60
646	01051	R	041214	R	DAC WIDSTO
647	01052	R	205423	E	LAC (JMS* DFAD
648	01053	R	041173	R	DAC CALL2+1
649	01054	R	101172	R	JMS CALL2
650	01055	R	621047	R	JMP* DISWID
651					/
652					/
653					/
654					/
655					/
656	01056	R	740040	A	SWOP1 XX
657	01057	R	205325	R	LAC X1
658	01060	R	652000	A	LMQ
659	01061	R	205326	R	LAC X2
660	01062	R	045325	R	DAC X1
661	01063	R	641002	A	LACQ
662	01064	R	045326	R	DAC X2
663	01065	R	205332	R	LAC Y1
664	01066	R	652000	A	LMQ
665	01067	R	205333	R	LAC Y2
666	01070	R	045332	R	DAC Y1

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667      01071 R 641002 A      LACQ
668      01072 R 045333 R      DAC Y2
669      01073 R 205313 R      LAC SIDE1
670      01074 R 652000 A      LMQ
671      01075 R 205314 R      LAC SIDE2
672      01076 R 045313 R      DAC SIDE1
673      01077 R 641002 A      LACQ
674      01100 R 045314 R      DAC SIDE2
675      01101 R 621056 R      JMP* SWOP1
676      /
677      /
678      /
679      /
680      /
681      01102 R 740040 A      XY XX
682      01103 R 045303 R      DAC PPTR#
683      01104 R 125352 E      JMS* SUBNOD
684      01105 R 601114 R      JMP .+7
685      01106 R 005323 R      ARG3 .DSA XINC#
686      01107 R 005330 R      .DSA YINC#
687      01110 R 000000 A      0
688      01111 R 000000 A      0
689      01112 R 005303 R      .DSA PPTR
690      01113 R 005276 R      .DSA NOD
691      01114 R 205330 R      LAC YINC
692      01115 R 652000 A      LMQ
693      01116 R 205323 R      LAC XINC
694      01117 R 621102 R      JMP* XY
695      /
696      /
697      /
698      /
699      /
700      01120 R      ERROR .READ 10,6,XCROSS,0
701      01120 R 006010 A *G      CAL+6*1000 10&777
702      01121 R 000010 A *G      10
703      01122 R 004236 R *G      XCROSS
704      *G      .DEC
705      01123 R 000000 A *G      -0
706      01124 R 204236 R      LAC XCROSS
707      01125 R 345424 R      TAD (144000
708      01126 R 041157 R      DAC BUFF2+2
709      01127 R 204237 R      LAC YCROSS
710      01130 R 345425 R      TAD (140000
711      01131 R 041160 R      DAC BUFF2+3
712      01132 R 205423 E      LAC (JMS* DFAD
713      01133 R 041150 R      DAC CALL+1
714      01134 R 101147 R      JMS CALL
715      01135 R 104240 R      JMS KEYS
716      01136 R 245272 R      XOR KEYVAL
717      01137 R 741200 A      SNA
718      01140 R 601135 R      JMP .-3

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714	01141 R 245272 R	KEYVAL
715	01142 R 045272 R	DAC KEYVAL
716	01143 R 205405 E	LAC (JMS* DFDEL
717	01144 R 041150 R	DAC CALL+1
718	01145 R 101147 R	JMS CALL
719	01146 R 600410 R	JMP LOOP1
720		/
721		/
722		/
723	01147 R 740040 A	CALL XX
724	01150 R 740040 A	XX
725	01151 R 621147 R	JMP* CALL
726	01152 R 005426 R	.DSA (-10
727	01153 R 005373 R	.DSA (0
728	01154 R 001155 R	.DSA BUFF2
729		/
730		/
731		/
732		/
733	01155 R 000014 A	BUFF2 14
734	01156 R 000000 A	0
735	01157 R 000000 A	0 /XPOS
736	01160 R 000000 A	0 /YPOS
737	01161 R 211400 A	211400 /BLINK ON
738	01162 R 203600 A	203600 /BRIGHTNESS 7
739	01163 R 000123 A	123 /S
740	01164 R 000111 A	111 /I
741	01165 R 000104 A	104 /D
742	01166 R 000105 A	105 /E
743	01167 R 000077 A	77 /?
744	01170 R 211000 A	211000 /BLINK OFF
745	01171 R 621156 R	JMP* BUFF2+1
746		/
747	01172 R 740040 A	CALL2 XX
748	01173 R 740040 A	XX
749	01174 R 621172 R	JMP* CALL2
750	01175 R 005427 R	.DSA (-12
751	01176 R 005373 R	.DSA (0
752	01177 R 001200 R	.DSA BUFF4
753		/
754		/
755		/
756	01200 R 000020 A	BUFF4 20
757	01201 R 000000 A	0
758	01202 R 144540 A	144540
759	01203 R 140740 A	140740
760	01204 R 211400 A	211400 /BLINK ON
761	01205 R 203623 A	203623 /BRIGHTNESS 7
762	01206 R 000127 A	127 /W
763	01207 R 000111 A	111 /I
764	01210 R 000104 A	104 /D
765	01211 R 000124 A	124 /T

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766      01212 R 000110 A      110 /H
767      01213 R 000075 A      75 /=
768      01214 R 000060 A      WIDSTO 60 /WIDTH IN 7 BIT ASCII
769      01215 R 000077 A      77 /?
770      01216 R 211000 A      211000 /BLINK OFF
771      01217 R 203220 A      203220
772      01220 R 621201 R      JMP* BUFF4+1
773      /
774      /
775      /
776      /
777      01221 R 740040 A      ARROW XX
778      01222 R 205333 R      LAC Y2
779      01223 R 652000 A      LMQ
780      01224 R 205326 R      LAC X2
781      01225 R 125351 E      JMS* SCALUP
782      01226 R 723760 A      AAC -20
783      01227 R 740100 A      SMA
784      01230 R 601233 R      JMP .+3
785      01231 R 205430 R      LAC (20
786      01232 R 601241 R      JMP .+7
787      01233 R 345421 R      TAD (-2000
788      01234 R 741100 A      SPA
789      01235 R 601240 R      JMP .+3
790      01236 R 205431 R      LAC (1757
791      01237 R 741000 A      SKP
792      01240 R 345432 R      TAD (2020
793      01241 R 345424 R      TAD (144000 /PX
794      01242 R 041272 R      DAC BUFF3+2
795      /REPEAT FO Y
796      01243 R 641002 A      LACQ
797      01244 R 723760 A      AAC -20
798      01245 R 740100 A      SMA
799      01246 R 601251 R      JMP .+3
800      01247 R 205430 R      LAC (20
801      01250 R 601257 R      JMP .+7
802      01251 R 345421 R      TAD (-2000
803      01252 R 741100 A      SPA
804      01253 R 601256 R      JMP .+3
805      01254 R 205431 R      LAC (1757
806      01255 R 741000 A      SKP
807      01256 R 345432 R      TAD (2020
808      01257 R 345425 R      TAD (140000
809      01260 R 041273 R      DAC BUFF3+3
810      01261 R 205403 R      LAC (1
811      01262 R 045256 R      DAC ARRFLG
812      01263 R 125336 E      JMS* DFAD
813      01264 R 621221 R      JMP* ARROW
814      01265 R 005372 R      .DSA (-11
815      01266 R 005373 R      .DSA (0
816      01267 R 001270 R      .DSA BUFF3
817      /

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818
819
820
821
822
823 01270 R 000014 A BUFF3 14
824 01271 R 000000 A 0
825 01272 R 000000 A 0 /POX
826 01273 R 000000 A 0 /POX
827 01274 R 211400 A 211400 /BLINK ON
828 01275 R 203600 A 203600 /BRIGHTNESS 7
829 01276 R 420020 A 420020
830 01277 R 426020 A 426020
831 01300 R 434040 A 434040
832 01301 R 426020 A 426020
833 01302 R 420020 A 420020
834 01303 R 211000 A 211000 /BLINK OFF
835 01304 R 621271 R JMP* BUFF3+1
836
837
838
839
840
841
842
843 01305 R 445260 R DELETE ISZ CFLAG
844 01306 R 205274 R LAC MESS
845 01307 R 652000 A LMQ
846 01310 R 205433 R LAC (YSIX
847 01311 R 165274 R DZM* MESS
848 01312 R 125345 E JMS* MESS1
849 01313 R 125341 E JMS* DFLPK
850 01314 R 601316 R JMP .+2
851 01315 R 005434 R .DSA (14
852 01316 R 741100 A SPA
853 01317 R 600063 R JMP START /NON D.S. ITEM
854 01320 R 045266 R DAC DISFAD
855 01321 R 225266 R LAC* DISFAD
856 01322 R 740100 A SMA
857 01323 R 101035 R JMS GETWID
858 01324 R 225266 R LAC* DISFAD
859 01325 R 045311 R DAC SCAN /STORE POINTER TO D.S
860 01326 R 740100 A SMA
861 01327 R 205371 R LAC (4 /ROUTE!
862 01330 R 652000 A LMQ /COPPER!
863 01331 R 205266 R LAC DISFAD
864 01332 R 740031 A TCA
865 01333 R 125342 E JMS* DRAWCP
866 / ITEM NOW DELETED FROM DISPLAY FILE
867
868 01334 R 205274 R LAC MESS
869 01335 R 652000 A LMQ

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870 01336 R 205435 R LAC (YSEVEN
871 01337 R 165274 R DZM* MESS
872 01340 R 125345 E JMS* MESS1 /HIT BUTTON,6 TO RESTORE ITEM
873 01341 R 205405 E LAC (JMS* DFDEL
874 01342 R 041173 R DAC CALL2+1
875 01343 R 125335 E JMS* BUTTON
876 01344 R 545367 R SAD (6
877 01345 R 601363 R JMP REPLAC /DELETED WRONG ITEM OR CHANGED MIND
878 01346 R 205311 R LAC SCAN
879 01347 R 741100 A SPA
880 01350 R 601354 R JMP .+4
881 01351 R 104144 R JMS GETRUT
882 01352 R 101172 R JMS CALL2
883 01353 R 600063 R JMP START
884 01354 R 340013 R TAD COPPAD
885 01355 R 740031 A TCA
886 01356 R 740030 A IAC
887 01357 R 045310 R DAC RUTPTR
888 01360 R 104075 R JMS GETCOP
889 01361 R 104245 R JMS UPDATE
890 01362 R 600063 R JMP START
891 01363 R 205311 R REPLAC LAC SCAN
892 01364 R 741100 A SPA
893 01365 R 601377 R JMP CU1 /COPPER
894 01366 R 101172 R JMS CALL2
895 01367 R 225311 R LAC* SCAN
896 01370 R 505400 R AND (77777
897 01371 R 045266 R DAC DISFAD
898 01372 R 205311 R LAC SCAN
899 01373 R 100174 R JMS FINCON
900 01374 R 205267 R LAC DISNO
901 01375 R 125342 E JMS* DRAWCP
902 01376 R 600063 R JMP START
903 01377 R 205266 R CU1 LAC DISFAD
904 01400 R 723777 A AAC -1
905 01401 R 045266 R DAC DISFAD
906 01402 R 205436 R LAC (235177
907 01403 R 065266 R DAC* DISFAD
908 01404 R 205311 R LAC SCAN
909 01405 R 445266 R ISZ DISFAD
910 01406 R 065266 R DAC* DISFAD
911 01407 R 600063 R JMP START
912 /
913 /
914 /
915 01410 R 104240 R CU JMS KEYS
916 01411 R 045272 R DAC KEYVAL /STATUS OF BUTTONS
917 01412 R 205274 R LAC MESS
918 01413 R 652000 A LMQ
919 01414 R 205437 R LAC (YEIGHT
920 01415 R 165274 R DZM* MESS
921 01416 R 125345 E JMS* MESS1 /PLACE CROSS,HIT BUTTON,6 TO EXIT

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922 01417 R 104214 R      CROSS
923 01420 R 104240 R      JMS KEYS
924 01421 R 245272 R      XOR KEYVAL
925 01422 R 741200 A      SNA
926 01423 R 601417 R      JMP .-4
927 01424 R 545440 R      SAD (10000
928 01425 R 600063 R      JMP START /6 SO EXIT
929 01426 R 245272 R      XOR KEYVAL
930 01427 R 045272 R      DAC KEYVAL
931 01430 R 445260 R      ISZ CFLAG /SET TO INDICATE COPPER
932 01431 R 204236 R      LAC XCROSS
933 01432 R 045325 R      DAC X1
934 01433 R 045326 R      DAC X2
935 01434 R 204237 R      LAC YCROSS
936 01435 R 045332 R      DAC Y1
937 01436 R 045333 R      DAC Y2 /START AND FINISH POINT
938 01437 R 145270 R      DZM FALG
939 01440 R 445270 R      ISZ FALG
940 01441 R 600365 R      JMP ENTRY
941 /
942 /
943 /
944 /
945 01442 R 104305 R      SWOP JMS SWOPIT
946 01443 R 600063 R      JMP START
947 /
948 /
949 /
950 01444 R 125354 E      MODIFY JMS* TRACK
951 01445 R 601451 R      JMP .+4
952 01446 R 005441 R      .DSA (764
953 01447 R 005441 R      .DSA (764
954 01450 R 005442 R      .DSA (-1
955 01451 R 160001 R      DZM* MSFLAG /BUG9
956 01452 R 220000 R      LAC* PUSBUT
957 01453 R 045274 R      DAC      MESS
958 01454 R 205274 R      LAC MESS
959 01455 R 165274 R      DZM* MESS
960 01456 R 652000 A      LMQ
961 01457 R 205443 R      LAC (YELEVN
962 01460 R 125345 E      JMS* MESS1
963 01461 R 125335 E      JMS* BUTTON
964 01462 R 545375 R      SAD (5
965 01463 R 603436 R      JMP MODIFY
966 01464 R 545367 R      SAD (6
967 01465 R 600105 R      JMP EX1
968 01466 R 545365 R      SAD (3
969 01467 R 601442 R      JMP SWOP
970 01470 R 723777 A      AAC -1
971 01471 R 045300 R      DAC N1#
972 01472 R 142252 R      MANUAL DZM STOF LG
973 01473 R 205403 R      LAC (1

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/\*#1 \*\*\*\*\*

/\*#1 \*\*\*\*\*

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974 01474 R 045321 R DAC VALID#
975 01475 R 045302 R DAC ONEFLG#
976 01476 R 205444 R LAC (JMP MODFY+5
977 01477 R 042520 R DAC SUBCON+4
978 01500 R 205300 R LAC N1
979 01501 R 545365 R SAD (3
980 01502 R 601505 R JMP ZWOP
981 01503 R 442252 R ISZ STOFLG /IF NOT SWOP,STOFLG IS SET
982 01504 R 741000 A SKP
983 01505 R 145300 R ZWOP DZM N1 / IF SWOP MODE,N1 AN STOFLG ARE 0
984 01506 R 165274 R DZM* MESS
985 01507 R 205274 R LAC MESS
986 01510 R 652000 A LMQ
987 01511 R 205445 R LAC (MESSA
988 01512 R 125345 E JMS* MESS1 /DISPLAY MESSAGE !SELECT ROUTE'
989 01513 R 125354 E RESTT JMS* TRACK
990 01514 R 601520 R JMP .+1+3
991 01515 R 002257 R .DSA XP
992 01516 R 002260 R .DSA YP
993 01517 R 005403 R .DSA (1 /MODE TO GET POSITION
994 01520 R 200006 R LAC CONNAD
995 01521 R 723777 A AAC -1
996 01522 R 042221 R DAC CONPT /RESET TO BEGINNING OF CONNECTIONS
997 01523 R 125341 E JMS* DFLPK
998 01524 R 601526 R JMP .+2
999 01525 R 005371 R .DSA (4 /TO SEE ROUTES
1000 01526 R 741100 A SPA /ROUTE SEEN
1001 01527 R 601451 R JMP MODFY+5 /ERROR EXIT
1002 01530 R 102453 R JMS GETCON /DF. ADDRESS IN ACC.
1003 / CONPT SET TO CONN.ROUTE READ INTO BUFF,AIR 11 SET TO 2ND PT
1004 / XNYN,XNR,YNR 1ST PT,NPTS NO OF PTS,ENBUF TO LAST PT
1005 01531 R 205300 R LAC N1
1006 01532 R 740200 A SZA /INSERT CORNER MODE
1007 01533 R 601540 R JMP NOINS
1008 01534 R 204653 R LAC BUFF
1009 01535 R 723741 A AAC -37
1010 01536 R 740100 A SMA /NOT TOO MANY CORNERS
1011 01537 R 601767 R JMP OUT /LIMIT OF NO OF CORNERS REACHED ALREADY
1012 01540 R 142234 R NOINS DZM JTHSEG
1013 01541 R 225446 R NXTSEG LAC* (11
1014 01542 R 542422 R SAD ENBUF
1015 01543 R 601614 R JMP PUTBAK / POINT NOT ON SELECTED ROUTE,TRY AGAIN
1016 01544 R 220011 A LAC* 11
1017 01545 R 042247 R DAC SIDE
1018 01546 R 442234 R ISZ JTHSEG
1019 01547 R 225446 R LAC* (11
1020 01550 R 042250 R DAC SPTR / POINTS TO 1ST WORD OF CURRENT POINT IN BUFF
1021 01551 R 220011 A LAC* 11
1022 01552 R 042244 R DAC XA
1023 01553 R 220011 A LAC* 11
1024 01554 R 042245 R DAC YA
1025 01555 R 205300 R LAC N1

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1026	01556 R 741200 A	
1027	01557 R 601616 R	JMP MINSRT
1028		/ MOVE OR DEL MODE, SO LOOK FOR PT NEAR XPYP
1029		/ EXAMINE PT AT BEG OF CURRENT SEG (XN, YN)
1030	01560 R 202234 R	LAC JTHSEG
1031	01561 R 545403 R	SAD (1
1032	01562 R 601643 R	JMP NOTHIS / IGNORE 1ST SEG, COS CANNOT MOVE OR DEL 1ST PT
1033	01563 R 202257 R	LAC XP
1034	01564 R 740001 A	CMA
1035	01565 R 345403 R	TAD (1
1036	01566 R 342240 R	TAD XN
1037	01567 R 664000 A	GSM
1038	01570 R 741400 A	SZL
1039	01571 R 345403 R	TAD (1
1040	01572 R 042255 R	DAC XP1 / MOD(XN-XP)
1041	01573 R 202260 R	LAC YP
1042	01574 R 740001 A	CMA
1043	01575 R 345403 R	TAD (1
1044	01576 R 342241 R	TAD YN
1045	01577 R 664000 A	GSM
1046	01600 R 741400 A	SZL
1047	01601 R 345403 R	TAD (1
1048	01602 R 042256 R	DAC YP1 / MOD(YN-YP)
1049	01603 R 202256 R	LAC YP1
1050	01604 R 345447 R	TAD (-2
1051	01605 R 740100 A	SMA
1052	01606 R 601643 R	JMP NOTHIS / NOT NEAR YP
1053	01607 R 202255 R	LAC XP1
1054	01610 R 345447 R	TAD (-2
1055	01611 R 740100 A	SMA
1056	01612 R 601643 R	JMP NOTHIS / NOT NEAR XP
1057	01613 R 601652 R	JMP GOTITT
1058	01614 R 102570 R	PUTBAK JMS RRITE / WRITE ROUTE BACK FIRST
1059	01615 R 601513 R	JMP RESTT / THEN LOOK AGAIN
1060	01616 R 202257 R	MINSRT LAC XP
1061	01617 R 345403 R	TAD (1
1062	01620 R 042232 R	DAC XX1
1063	01621 R 345447 R	TAD (-2
1064	01622 R 042230 R	DAC XX
1065	01623 R 202260 R	LAC YP
1066	01624 R 042231 R	DAC YY
1067	01625 R 042233 R	DAC YY1
1068	01626 R 102636 R	JMS XOVER / SEE IF HORIZ LINE 2 LONG THRO XPYP CUTS SEG
1069	01627 R 740200 A	SZA
1070	01630 R 601652 R	JMP GOTITT / YES, CROSSES
1071	01631 R 202257 R	LAC XP
1072	01632 R 042230 R	DAC XX
1073	01633 R 042232 R	DAC XX1
1074	01634 R 442233 R	ISZ YY1
1075	01635 R 202260 R	LAC YP
1076	01636 R 345442 R	TAD (-1
1077	01637 R 042231 R	DAC YY

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1078 01640 R 102636 R JMS XOVER / SEE IF VERT LINE 2 LONG THRO XPYP CROSSES SEG
1079 01641 R 740200 A SZA
1080 01642 R 601652 R JMP GOTITT / YES IT DOES
1081 01643 R 202244 R NOTHIS LAC XA
1082 01644 R 042240 R DAC XN
1083 01645 R 202245 R LAC YA
1084 01646 R 042241 R DAC YN
1085 01647 R 202247 R LAC SIDE
1086 01650 R 042253 R DAC OTHSD
1087 01651 R 601541 R JMP NXTSEG / GET NEXT POINT FROM BUFF
1088 01652 R 145321 R GOTITT DZM VALID
1089 01653 R 205300 R LAC N1
1090 01654 R 740200 A SZA
1091 01655 R 601673 R JMP M/DEL
1092 01656 R 202252 R LAC STOF LG
1093 01657 R 740200 A SZA
1094 01660 R 601671 R JMP PUTIN
1095 / SWOP SIDE MODE
1096 01661 R 103320 R JMS EGGTES / SEE IF SEG CONNECTED TO SINGLE SIDED PAD
1097 01662 R 602032 R JMP UGH / IT IS, SO CANT SWOP
1098 01663 R 202247 R LAC SIDE
1099 01664 R 545370 R SAD (2
1100 01665 R 750000 A CLA
1101 01666 R 345403 R TAD (1 / OPPOSITE TO SIDE
1102 01667 R 062250 R DAC* SPTER / WRITE INTO BUFF
1103 01670 R 601767 R JMP OUT / DRAW, WRITE AND EXIT
1104 01671 R 102611 R PUTIN JMS RUTGAP / FORMS 3 WORD GAP IN BUFF
1105 01672 R 601706 R JMP MLOOP / NOW INSERT PT IN GAP, AND MOVE IT
1106 01673 R 202250 R M/DEL LAC SPTER
1107 01674 R 345450 R TAD (-3
1108 01675 R 042250 R DAC SPTER
1109 01676 R 205300 R LAC N1
1110 01677 R 545403 R SAD (1
1111 01700 R 601706 R JMP MLOOP / MOVE CORNER
1112 01701 R 202247 R LAC SIDE / DELETE MODE
1113 01702 R 542253 R SAD OTHSD
1114 01703 R 741000 A SKP
1115 01704 R 602032 R JMP UGH / CANT DELETE CORNER, COS IT IS A PT HOLE
1116 01705 R 601771 R JMP COPYIT
1117 01706 R 165274 R MLOOP DZM* MESS
1118 01707 R 205274 R LAC MESS
1119 01710 R 652000 A LMQ
1120 01711 R 205451 R LAC (MESSD /#2 *****
1121 01712 R 125345 E JMS* MESS1 /DISPLAY MESSAGE 'BUTTON TO RELEASE'
1122 01713 R 703032 A RELES RS2+10
1123 01714 R 505452 R AND (770000
1124 01715 R 045272 R DAC KEYVAL* / BUTTON SETTINGS
1125 01716 R 125354 E LOOPM JMS* TRACK
1126 01717 R 601723 R JMP .+1+3
1127 01720 R 002244 R .DSA XA
1128 01721 R 002245 R .DSA YA
1129 01722 R 005403 R .DSA (1 /READ MODE

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1130 01723 R 202250 R SPTER
1131 01724 R 065446 R DAC* (11
1132 01725 R 202244 R LAC XA
1133 01726 R 060011 A DAC* 11
1134 01727 R 202245 R LAC YA
1135 01730 R 060011 A DAC* 11
1136 01731 R 220012 R LAC* EOROUT
1137 01732 R 045310 R DAC RUTPTR /FOR READRT CALL
1138 01733 R 340011 R TAD ROUTAD
1139 01734 R 723777 A AAC -1
1140 01735 R 045306 R DAC RARG10* /FOR READRT CALL
1141 01736 R 102000 R JMS DROR /TO WRITE ROUTE AND DRAW IT
1142 01737 R 125347 E JMS* READRT /READ OUT ROUTE DESTRUCTIVELY
1143 01740 R 601750 R JMP .+1+7
1144 01741 R 005306 R RARG1 .DSA RARG10 /ROUTES(POINTER)
1145 01742 R 002264 R .DSA CROSSSS
1146 01743 R 000000 A RARG3 0 /EOROUT
1147 01744 R 005373 R .DSA (0 /DEST. INDICATOR
1148 01745 R 005310 R .DSA RUTPTR
1149 01746 R 000000 A RARG6 0
1150 01747 R 000000 A RARG7 0
1151 01750 R 703032 A RS2+10
1152 01751 R 505452 R AND (770000 /BUTTON SETTINGS
1153 01752 R 245272 R XOR KEYVAL
1154 01753 R 741200 A SNA /CHANGED
1155 01754 R 601716 R JMP LOOPM
1156 01755 R 045316 R DAC STATUS /#2
1157 01756 R 245272 R XOR KEYVAL /#2
1158 01757 R 045272 R DAC KEYVAL /#2
1159 01760 R 205316 R LAC STATUS /#2
1160 01761 R 545416 R SAD (20000 /#2
1161 01762 R 601764 R JMP .+2 /#2
1162 01763 R 601767 R JMP OUT /#2
1163 01764 R 445275 R ISZ MFLAG /#2
1164 01765 R 102000 R JMS DROR /#2 *****
1165 01766 R 600576 R JMP WINDOW + 5 /#2 760414
1166 01767 R 102000 R OUT JMS DROR /WRITE IN ROUTE AND DRAW IT
1167 01770 R 601451 R JMP MODFY+5 /EXIT
1168 01771 R 202250 R COPYIT LAC SPTER
1169 01772 R 065446 R DAC* (11
1170 01773 R 202244 R LAC XA
1171 01774 R 060011 A DAC* 11
1172 01775 R 202245 R LAC YA
1173 01776 R 060011 A DAC* 11
1174 01777 R 601767 R JMP OUT /WRITE IN, DRAW AND EXIT
1175 /SUBROUTINE FOR DRAWING A SINGLE ROUTE. COPY INTO CROSS, FROM BUFF.
1176 /WRITE INTO THE ROUTES ARRAY AND CALL DRAW.
1177 02000 R 740040 A DROR XX
1178 02001 R 205453 R LAC (BUFF-1
1179 02002 R 065454 R DAC* (13
1180 02003 R 740031 A TCA
1181 02004 R 342422 R TAD ENBUF

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PAGE	24	MANRUT SRC	MANRUT	751117
1182	02005	R 740031	A	TCA /-NO. OF WORDS TO BE COPIED
1183	02006	R 045277	R	DAC NWORDS*
1184	02007	R 205455	R	LAC (CROSS-1
1185	02010	R 065434	R	DAC* (14
1186	02011	R 220013	A	COPYLP LAC* 13 /LOOP TO COPY BUFF TO CROSS
1187	02012	R 060014	A	DAC* 14 /FOR WRITRT CALL
1188	02013	R 445277	R	ISZ NWORDS
1189	02014	R 602011	R	JMP COPYLP
1190	02015	R 205456	R	LAC (CROSS
1191	02016	R 042603	R	DAC WARG1+1 /MODIFY RRITE TO WRITE FROM CROSS
1192	02017	R 222221	R	LAC* CONPT
1193	02020	R 505400	R	AND (77777
1194	02021	R 042225	R	DAC DISPAD / GRT D.F ADDR IN CASE IT HAS CHANGED
1195	02022	R 102570	R	JMS RRITE /WRITE ROUTE INTO DS.
1196	02023	R 205374	R	LAC (BUFF
1197	02024	R 042603	R	DAC WARG1+1 /RESTORE RRITE
1198	02025	R 202221	R	LAC CONPT
1199	02026	R 652000	A	LMQ /PARAMETER FOR CALL
1200	02027	R 205371	R	LAC (4 /OF DRAW
1201	02030	R 125342	E	JMS* DRAWCP /DRAW ROUTE
1202	02031	R 622000	R	JMP* DROR /EXIT
1203	02032	R 165274	R	UGH DZM* MESS
1204	02033	R 445321	R	ISZ VALID
1205	02034	R 205274	R	LAC MESS
1206	02035	R 652000	A	LMQ
1207	02036	R 205457	R	LAC (MESSC
1208	02037	R 125345	E	JMS* MESS1 /MESSAGE 'ERROR'
1209	02040	R 703032	A	RS2+10
1210	02041	R 505452	R	AND (770000
1211	02042	R 045272	R	DAC KEYVAL
1212	02043	R 703032	A	KEYLP RS2+10
1213	02044	R 505452	R	AND (770000
1214	02045	R 245272	R	XOR KEYVAL
1215	02046	R 741200	A	SNA /BUTTON HIT
1216	02047	R 602043	R	JMP KEYLP
1217	02050	R 601767	R	JMP OUT
1218	02051	R 205274	R	DRAWAL LAC MESS
1219	02052	R 165274	R	DZM* MESS
1220	02053	R 652000	A	LMQ
1221	02054	R 205460	R	LAC (YTEN
1222	02055	R 125345	E	JMS* MESS1
1223	02056	R 125335	E	JMS* BUTTON
1224	02057	R 545370	R	SAD (2
1225	02060	R 741000	A	SKP / BUTTONS 2 AND 4 REQUIRED TO CONTINUE
1226	02061	R 600063	R	JMP START
1227	02062	R 125335	E	JMS* BUTTON
1228	02063	R 545371	R	SAD (4
1229	02064	R 741000	A	SKP
1230	02065	R 600063	R	JMP START
1231	02066	R 205461	R	LAC (JMP DRAW4
1232	02067	R 042520	R	DAC SUBCON+4
1233	02070	R 205462	R	LAC (JMP DRWCON



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1234 02071 R 042213 R ENDPT+7
1235 02072 R 200006 R LAC CONNAD
1236 02073 R 345442 R TAD (-1
1237 02074 R 042221 R DAC CONPT / SET TO START OF CONNECTIONS
1238 02075 R 102514 R DRAW2 JMS SUBCON / EXITS IF ALL CONN ROUTED
1239 /
1240 /
1241 /
1242 / FINISH MANUAL SECTION, NOW SECTION WHICH REPLACES CONNS BY ROUTES
1243 / 2 POINT OR 3 POINT IF PTHOLE NEEDED
1244 /
1245 02076 R 442220 R DRWCON ISZ NCONN
1246 02077 R 602101 R JMP MOCONN
1247 02100 R 602075 R JMP DRAW2
1248 02101 R 442221 R MOCONN ISZ CONPT
1249 02102 R 102533 R JMS RTPTDF / SEE IF ROUTE PTER -0
1250 02103 R 740200 A SZA
1251 02104 R 602076 R JMP DRWCON / ALREADY ROUTED
1252 02105 R 142246 R DZM NPTS / SET UP FOR INSERT LATRE
1253 02106 R 205453 R LAC (BUFF-1
1254 02107 R 065446 R DAC* (11 / SET AIR 11 TO 1ST WORD IN BUFF
1255 02110 R 222221 R LAC* CONPT
1256 02111 R 505400 R AND (77777
1257 02112 R 042225 R DAC DISPAD / UNPAK DF ADDRESS
1258 02113 R 202221 R LAC CONPT
1259 02114 R 345447 R TAD (-2
1260 02115 R 103414 R JMS LOCSUB / AC PTS TO WORD CONTAINING PAD NO, EXIT XPYP-PAD POSN
1261 02116 R 202226 R LAC COMPT
1262 02117 R 225407 R LAC* (16
1263 02120 R 505463 R AND (3000
1264 02121 R 660511 A LRSS 11
1265 02122 R 045313 R DAC SIDE1 / SIDE INF OF PADS ON COMPT
1266 02123 R 202257 R LAC XP
1267 02124 R 042255 R DAC XP1
1268 02125 R 202260 R LAC YP
1269 02126 R 042256 R DAC YP1
1270 02127 R 202221 R LAC CONPT
1271 02130 R 345442 R TAD (-1
1272 02131 R 103414 R JMS LOCSUB
1273 02132 R 202227 R LAC OTHCOMP
1274 02133 R 225407 R LAC* (16
1275 02134 R 505463 R AND (3000
1276 02135 R 660511 A LRSS 11
1277 02136 R 045314 R DAC SIDE2
1278 02137 R 741200 A SNA
1279 02140 R 602160 R JMP SWOPS / OTHER END ON EITHER SIDE
1280 02141 R 205313 R LAC SIDE1
1281 02142 R 741200 A SNA
1282 02143 R 602164 R JMP NOUTH / COMPT END ON EITHER SIDE
1283 02144 R 545314 R SAD SIDE2
1284 02145 R 602164 R JMP NOUTH / PADS ON SAME SIDE
1285 02146 R 442246 R ISZ NPTS / ONE PT MORE, FOR PTHOLE

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1286 02147 R 202257 R LAC XP
1287 02150 R 342255 R TAD XP1
1288 02151 R 744020 A RCR
1289 02152 R 042244 R DAC XA
1290 02153 R 202260 R LAC YP
1291 02154 R 342256 R TAD YP1
1292 02155 R 744020 A RCR
1293 02156 R 042245 R DAC YA
1294 / XA, YA IS NOW MID PT OF SEG. IE POSN FOR PTHOLE
1295 02157 R 602164 R JMP N0PTH
1296 02160 R 205313 R SWOPS LAC SIDE1
1297 02161 R 741200 A SNA
1298 02162 R 205403 R LAC (1 / CAN BE EITHER SIDE SO PUT ONS SIDE 1
1299 02163 R 045314 R DAC SIDE2
1300 02164 R 202246 R N0PTH LAC NPTS
1301 02165 R 345370 R TAD (2
1302 02166 R 060011 A DAC* 11
1303 02167 R 202255 R LAC XP1
1304 02170 R 060011 A DAC* 11
1305 02171 R 202256 R LAC YP1
1306 02172 R 060011 A DAC* 11
1307 02173 R 202246 R LAC NPTS
1308 02174 R 741200 A SNA
1309 02175 R 602204 R JMP ENDPT / PTHOLE NOT NECESSARY
1310 02176 R 205313 R LAC SIDE1
1311 02177 R 060011 A DAC* 11
1312 02200 R 202244 R LAC XA
1313 02201 R 060011 A DAC* 11
1314 02202 R 202245 R LAC YA
1315 02203 R 060011 A DAC* 11
1316 02204 R 205314 R ENDPT LAC SIDE2
1317 02205 R 060011 A DAC* 11
1318 02206 R 202257 R LAC XP
1319 02207 R 060011 A DAC* 11
1320 02210 R 202260 R LAC YP
1321 02211 R 060011 A DAC* 11
1322 02212 R 102570 R JMS RRITE
1323 02213 R 602076 R JMP DRWCON
1324 02214 R 750000 A DRAW4 CLA
1325 02215 R 650000 A CLQ
1326 02216 R 125342 E JMS* DRAWCP
1327 02217 R 620002 R JMP* MANRUT
1328 /
1329 /END OF MAINLINE BENRUT, NOW FOLLOWS SYMBOL TABLE FOR MAINLINE
1330 /
1331 02220 R 000000 A NCONN 0 / -NO OF CONNS IN CURRENT ENTRY
1332 02221 R 000000 A CONPT 0 / ABS PTER FOR SCANNING CONNECTIONS
1333 02222 R 000000 A ABSENC 0 / ABS PTER TO END OF CONN
1334 02223 R 000000 A IND 0 / PARAM FOR READRT LEFT=ZERO
1335 02224 R 000000 A SOID 0 / ROUTES ON THIS SDIE ARE TESTED
1336 02225 R 000000 A DISPAD 0
1337 02226 R 000000 A COMPT 0 / RELDIW6

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1338 02227 R 000000 A OMP 0
1339 02230 R 000000 A XX 0
1340 02231 R 000000 A YY 0
1341 02232 R 000000 A XX1 0
1342 02233 R 000000 A YY1 0
1343 / USED IN MANUAL AND IN SEGCROSS AS ENDS OF ROUTE SEG
1344 02234 R 000000 A JTHSEG 0
1345 02235 R 000000 A REMSID 0
1346 02236 R 000000 A XZ 0
1347 02237 R 000000 A YZ 0 / USED IN REMOVE CORNERS, END OF 1ST SEG
1348 02240 R 000000 A XN 0
1349 02241 R 000000 A YN 0
1350 02242 R 000000 A XNR 0
1351 02243 R 000000 A YNR 0
1352 02244 R 000000 A XA 0
1353 02245 R 000000 A YA 0
1354 02246 R 000000 A NPTS 0 / NO OF PTS IN ROUTE
1355 02247 R 000000 A SIDE 0
1356 02250 R 000000 A SPTER 0 / USED FOR POINTING TO POINT IN BUFF
1357 02251 R 000000 A NCROSS 0
1358 02252 R 000000 A STOF LG 0
1359 02253 R 000000 A OTHSD 0
1360 02254 R 000000 A OLCROSS 0 / NO OF CROSSOVERS OF LAST CASE
1361 02255 R 000000 A XP1 0
1362 02256 R 000000 A YP1 0
1363 02257 R 000000 A XP 0
1364 02260 R 000000 A YP 0
1365 02261 R 000000 A XL1 0
1366 02262 R 000000 A YL1 0
1367 02263 R 000000 A OFF 0 / AMOUNT OF OFFSET TO BE ADDED TO ENDS OF SEG
1368 02264 R 000000 A CROSS 0
1369 02265 R 000000 A .BLOCK 134 / STORE END PTS OF CROSSING SEGS
1370 02421 R 000000 A INSFLG 0
1371 02422 R 000000 A ENBUF 0
1372 02423 R 001750 A MESSA 1750
1373 02424 R 000000 A 0
1374 02425 R 202470 A .ASCII / SELECT ROUTE_
02426 R 546212 A
02427 R 416504 A
02430 R 051236 A
02431 R 526510 A
02432 R 557400 A
1375 02433 R 001750 A MESSB 1750
1376 02434 R 000000 A 0
1377 02435 R 202052 A .ASCII / BUTTON TO, RELEASE_
02436 R 552250 A
02437 R 476344 A
02440 R 052236 A
02441 R 261012 A
02442 R 242630 A
02443 R 426032 A
02444 R 342676 A

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1378      02445 R 001750 A   MESSC 1750
1379      02446 R 000000 A   0
1380      02447 R 202132 A   .ASCII / ERROR_/
          02450 R 251236 A
          02451 R 512760 A
          02452 R 000000 A

1381      / DUMMY LABELS UNTIL GLOBAL ROUTINES AVAILABLE
1382      02453 R 740040 A   GETCON XX / AC CONTAINS DF ADDRESS OF A ROUTE
1383      02454 R 042225 R   DAC DISPAD
1384      02455 R 102514 R   NXTCOM JMS SUBCON / SET NCONN
1385      02456 R 442220 R   NXTCON ISZ NCONN
1386      02457 R 602461 R   JMP GETDF
1387      02460 R 602455 R   JMP NXTCOM / FINISHED WITH THIS COMPONENT
1388      02461 R 442221 R   GETDF ISZ CONPT
1389      02462 R 102533 R   JMS RTPTDF / GET ROUTE POINTER AND DF ADDRESS
1390      02463 R 542225 R   SAD DISPAD
1391      02464 R 602466 R   JMP GOTRT
1392      02465 R 602456 R   JMP NXTCON
1393      02466 R 102470 R   GOTRT JMS GTRUT / READ ROUTE INTO BUFF
1394      02467 R 622453 R   JMP* GETCON
1395      /
1396      / NOW GETRUT WHICH READS ROUTE INTO BUFF, 1ST PT INTO XN, YN AND XNR, YNR
1397      / SETS ENBUF TO LAST WORD OF ROUTE. AIR 11 SET TO 2ND POINT
1398      02470 R 740040 A   GTRUT XX
1399      02471 R 205374 R   LAC (BUFF
1400      02472 R 044205 R   DAC RTOFRT+1
1401      02473 R 104175 R   JMS DESTRY
1402      02474 R 045301 R   DAC OLVAL# /PREV. VALIDITY
1403      02475 R 204653 R   LAC BUFF
1404      02476 R 042246 R   DAC NPTS / NO OF POINTS IN ROUTE
1405      02477 R 744010 A   RCL / 2*NPTS
1406      02500 R 342246 R   TAD NPTS / 3*NPTS
1407      02501 R 345453 R   TAD (BUFF-1 / ABS ADDR OF 1ST WORD
1408      02502 R 042422 R   DAC ENBUF / ABS ADDR OF LAST WORD
1409      02503 R 205374 R   LAC (BUFF
1410      02504 R 065446 R   DAC* (11
1411      02505 R 220011 A   LAC* 11
1412      02506 R 042240 R   DAC XN
1413      02507 R 042242 R   DAC XNR
1414      02510 R 220011 A   LAC* 11
1415      02511 R 042241 R   DAC YN
1416      02512 R 042243 R   DAC YNR
1417      02513 R 622470 R   JMP* GTRUT
1418      /
1419      /
1420      02514 R 740040 A   SUBCON XX / GETS NO OF CONNS FOR A COMPT, CONPT PTS TO WORD BEFORE
1421      / CONN ENTRY
1422      02515 R 202221 R   LAC CONPT
1423      02516 R 345403 R   TAD (1
1424      02517 R 542222 R   SAD ABSENC
1425      02520 R 600063 R   JMP START / NO CONNS LEFT, SO EXIT
1426      02521 R 042221 R   DAC CONPT

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1427 02522 R 222221 R  CONPT
1428 02523 R 505377 R  AND (???)
1429 02524 R 740001 A  CMA
1430 02525 R 042220 R  DAC NCONN / -NO OF CONNS-1
1431 02526 R 222221 R  LAC* CONPT
1432 02527 R 744000 A  CLL
1433 02530 R 640511 A  LRS 11
1434 02531 R 042226 R  DAC COMPT / (COMP POINTER)/6
1435 02532 R 622514 R  JMP* SUBCON
1436 /
1437 / NOW RTPTDF WHICH GETS ROUT PTER AND DF ADDRESS.EXITS WITH AC=0
1438 / IF NOT ROUTEELSE =DF ADDRESS
1439 02533 R 740040 A  RTPTDF XX
1440 02534 R 222221 R  LAC* CONPT
1441 02535 R 744000 A  CLL
1442 02536 R 640511 A  LRS 11
1443 02537 R 042227 R  DAC OTHCOMP
1444 02540 R 442221 R  ISZ CONPT
1445 02541 R 222221 R  LAC* CONPT
1446 02542 R 652000 A  LMQ
1447 02543 R 442221 R  ISZ CONPT
1448 02544 R 222221 R  LAC* CONPT
1449 02545 R 740010 A  RAL
1450 02546 R 742010 A  RTL
1451 02547 R 505365 R  AND (3
1452 02550 R 640614 A  LLS 14
1453 02551 R 045310 R  DAC RUTPTR / UNPACKED REL PTER TO ROUTE
1454 02552 R 205302 R  LAC ONEFLG
1455 02553 R 741200 A  SNA
1456 02554 R 602562 R  JMP ALL
1457 02555 R 222221 R  LAC* CONPT
1458 02556 R 505400 R  AND (?????)
1459 02557 R 542225 R  SAD DISPAD / SEARCH FOR DF ADDR
1460 02560 R 741000 A  SKP
1461 02561 R 602565 R  JMP RUETED / DF ADDR DIFFERENT
1462 02562 R 205310 R  ALL LAC RUTPTR
1463 02563 R 741200 A  SNA
1464 02564 R 622533 R  JMP* RTPTDF / NOT ROUTED
1465 02565 R 222221 R  RUETED LAC* CONPT
1466 02566 R 505400 R  AND (?????)
1467 02567 R 622533 R  JMP* RTPTDF
1468 /
1469 /
1470 02570 R 740040 A  RRITE XX / USES GLOBAL WRITRT TO WRITE BUFF TO ROUTE ARRAY
1471 02571 R 200011 R  LAC ROUTAD
1472 02572 R 360012 R  TAD* EOROUT
1473 02573 R 345442 R  TAD (-1
1474 02574 R 045322 R  DAC WARG10*
1475 02575 R 205321 R  LAC VALID
1476 02576 R 740201 A  SZA!CMA /INVALID IF ZERO
1477 02577 R 205301 R  LAC OLVAL
1478 02600 R 125355 E  JMS* WRITRT

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1479      02601 R 602610 R      JMP .+1+6
1480      02602 R 005322 R      WARG1 .DSA WARG10
1481      02603 R 004653 R      .DSA BUFF
1482      02604 R 000000 A      WARG3 0
1483      02605 R 000000 A      WARG4 0
1484      02606 R 000000 A      WARG5 0
1485      02607 R 002225 R      .DSA DISPAD
1486      02610 R 622570 R      JMP* RRITE
1487      /
1488      /
1489      02611 R 740040 A      RUTGAP XX / FORMS 3 WORD GAP IN BUFF BETWEEN ENDS OF CURRENT SEG
1490      02612 R 444653 R      ISZ BUFF / UPDATES NO OF POINTS IN ROUTE BY +1
1491      02613 R 202422 R      LAC ENBUF
1492      02614 R 042634 R      DAC PT1 / PTER SET TO LAST WORD
1493      02615 R 345365 R      TAD (3
1494      02616 R 042635 R      DAC PT2 / LAST WORD +3
1495      02617 R 042422 R      DAC ENBUF / UPDATE PTER TO END OF ROUTE
1496      02620 R 222634 R      COPYDN LAC* PT1
1497      02621 R 062635 R      DAC* PT2
1498      02622 R 202634 R      LAC PT1
1499      02623 R 542250 R      SAD SPTER / PTS TO 1ST WORD OF 2ND POINT OF SEG
1500      02624 R 602633 R      JMP FINCOP
1501      02625 R 345442 R      TAD (-1
1502      02626 R 042634 R      DAC PT1
1503      02627 R 202635 R      LAC PT2
1504      02630 R 345442 R      TAD (-1
1505      02631 R 042635 R      DAC PT2 / MOVE BOTH POINTERS DOWN BY 1
1506      02632 R 602620 R      JMP COPYDN
1507      02633 R 622611 R      FINCOP JMP* RUTGAP
1508      02634 R 000000 A      PT1 0
1509      02635 R 000000 A      PT2 0
1510      /
1511      /
1512      /
1513      02636 R 740040 A      XOVER XX / SEE IF (XNYN)(XAYA) CROSSES
1514      / (XX YY)(XX1 YY1). EXITS WITH AC=1 IF IT DOES, =0 IF NOT
1515      02637 R 202230 R      LAC XX / SET UP
1516      02640 R 740001 A      CMA
1517      02641 R 345403 R      TAD (1
1518      02642 R 043230 R      DAC BASEX / -XX
1519      02643 R 202231 R      LAC YY
1520      02644 R 740001 A      CMA
1521      02645 R 345403 R      TAD (1
1522      02646 R 043231 R      DAC BASEY / -YY
1523      02647 R 202232 R      LAC XX1
1524      02650 R 740001 A      CMA
1525      02651 R 345403 R      TAD (1
1526      02652 R 043232 R      DAC BASEX1 / -XX1
1527      02653 R 202233 R      LAC YY1
1528      02654 R 740001 A      CMA
1529      02655 R 345403 R      TAD (1
1530      02656 R 043233 R      DAC BASEY1 / -YY1

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1531          /  TRY RECTANGLE TEST
1532      02657 R 202240 R LAC XN
1533      02660 R 343230 R TAD BASEX
1534      02661 R 741200 A SNA
1535      02662 R 602722 R JMP YTEST
1536      02663 R 741100 A SPA
1537      02664 R 602705 R JMP NOTPS1
1538      02665 R 202244 R LAC XA
1539      02666 R 343230 R TAD BASEX
1540      02667 R 740200 A SZA
1541      02670 R 741100 A SPA
1542      02671 R 602722 R JMP YTEST
1543      02672 R 202240 R LAC XN
1544      02673 R 343232 R TAD BASEX1
1545      02674 R 740200 A SZA
1546      02675 R 741100 A SPA
1547      02676 R 602722 R JMP YTEST
1548      02677 R 202244 R LAC XA
1549      02700 R 343232 R TAD BASEX1
1550      02701 R 740200 A SZA
1551      02702 R 741100 A SPA
1552      02703 R 602722 R JMP YTEST
1553      02704 R 603217 R JMP NOKER
1554      02705 R 202244 R NOTPS1 LAC XA
1555      02706 R 343230 R TAD BASEX
1556      02707 R 740100 A SMA
1557      02710 R 602722 R JMP YTEST
1558      02711 R 202240 R LAC XN
1559      02712 R 343232 R TAD BASEX1
1560      02713 R 740100 A SMA
1561      02714 R 602722 R JMP YTEST
1562      02715 R 202244 R LAC XA
1563      02716 R 343232 R TAD BASEX1
1564      02717 R 740100 A SMA
1565      02720 R 602722 R JMP YTEST
1566      02721 R 603217 R JMP NOKER
1567      02722 R 202241 R YTEST LAC YN
1568      02723 R 343231 R TAD BASEY
1569      02724 R 741200 A SNA
1570      02725 R 602765 R JMP ANGTST
1571      02726 R 741100 A SPA
1572      02727 R 602750 R JMP NOTPS3
1573      02730 R 202245 R LAC YA
1574      02731 R 343231 R TAD BASEY
1575      02732 R 740200 A SZA
1576      02733 R 741100 A SPA
1577      02734 R 602765 R JMP ANGTST
1578      02735 R 202241 R LAC YN
1579      02736 R 343233 R TAD BASEY1
1580      02737 R 740200 A SZA
1581      02740 R 741100 A SPA
1582      02741 R 602765 R JMP ANGTST

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1583	02742	R	202245	R	LAC YA
1584	02743	R	343233	R	TAD BASEY1
1585	02744	R	740200	A	SZA
1586	02745	R	741100	A	SPA
1587	02746	R	602765	R	JMP ANGTST
1588	02747	R	603217	R	JMP NOKER
1589	02750	R	202245	R	NOTPS3 LAC YA
1590	02751	R	343231	R	TAD BASEY
1591	02752	R	740100	A	SMA
1592	02753	R	602765	R	JMP ANGTST
1593	02754	R	202241	R	LAC YN
1594	02755	R	343233	R	TAD BASEY1
1595	02756	R	740100	A	SMA
1596	02757	R	602765	R	JMP ANGTST
1597	02760	R	202245	R	LAC YA
1598	02761	R	343233	R	TAD BASEY1
1599	02762	R	740100	A	SMA
1600	02763	R	602765	R	JMP ANGTST
1601	02764	R	603217	R	JMP NOKER
1602					/ CANT REJECT ON RECTANGLE BASIS SO ANGLED CROSSOVER TEST
1603	02765	R	143221	R	ANGTST DZM ZFLG
1604					/ NOW COMPUTU DISTANCE OF (XNYN) AND (XBYA) FROM OTHER LINE.
1605	02766	R	202232	R	LAC XX1
1606	02767	R	343230	R	TAD BASEX
1607	02770	R	043222	R	DAC DELX
1608	02771	R	202233	R	LAC YY1
1609	02772	R	343231	R	TAD BASEY
1610	02773	R	043223	R	DAC DELY
1611	02774	R	202240	R	LAC XN
1612	02775	R	343230	R	TAD BASEX
1613	02776	R	652000	A	LMQ
1614	02777	R	203223	R	LAC DELY
1615	03000	R	103236	R	JMS MULT
1616	03001	R	043224	R	DAC SUM1
1617	03002	R	641002	A	LACQ
1618	03003	R	043225	R	DAC SUM2
1619	03004	R	202241	R	LAC YN
1620	03005	R	343231	R	TAD BASEY
1621	03006	R	652000	A	LMQ
1622	03007	R	203222	R	LAC DELX
1623	03010	R	103236	R	JMS MULT
1624	03011	R	103277	R	JMS DSUBS
1625	03012	R	203224	R	LAC SUM1
1626	03013	R	043226	R	DAC TOT1
1627	03014	R	203225	R	LAC SUM2
1628	03015	R	043227	R	DAC TOT2 / TOT1, TOT2 NOW HOLDS DIST OF (XNYN) TO LINE
1629	03016	R	202244	R	LAC XA
1630	03017	R	343230	R	TAD BASEX
1631	03020	R	652000	A	LMQ
1632	03021	R	203223	R	LAC DELY
1633	03022	R	103236	R	JMS MULT
1634	03023	R	043224	R	DAC SUM1



1635	03024	R	641002	A	LMQ
1636	03025	R	043225	R	DAC SUM2
1637	03026	R	202245	R	LAC YA
1638	03027	R	343231	R	TAD BASEY
1639	03030	R	652000	A	LMQ
1640	03031	R	203222	R	LAC DELX
1641	03032	R	103236	R	JMS MULT
1642	03033	R	103277	R	JMS DSUBS / SUM1, SUM2 HOLDS DIST OF XAYA TO LINE
1643	03034	R	203226	R	LAC TOT1
1644	03035	R	303227	R	ADD TOT2
1645	03036	R	740200	A	SZA / POINT IS ON LINE
1646	03037	R	603046	R	JMP TOTNZ
1647	03040	R	443221	R	ISZ ZFLG / RECORD PT ON LINE
1648	03041	R	203224	R	LAC SUM1
1649	03042	R	303225	R	ADD SUM2
1650	03043	R	741200	A	SNA
1651	03044	R	603163	R	JMP COMMON / DOUBLE PT. LINE, SO TEST FOR COMMON NODE
1652	03045	R	603060	R	JMP FINANG / MAYB XOVER
1653	03046	R	203224	R	TOTNZ LAC SUM1
1654	03047	R	303225	R	ADD SUM2
1655	03050	R	740200	A	SZA / PT ON LINE
1656	03051	R	603054	R	JMP SUMNZ
1657	03052	R	443221	R	ISZ ZFLG / RECORD PT. LINE
1658	03053	R	603060	R	JMP FINANG
1659	03054	R	203226	R	SUMNZ LAC TOT1
1660	03055	R	243224	R	XOR SUM1
1661	03056	R	740100	A	SMA
1662	03057	R	603217	R	JMP NOKER / SAME SIGN, SO PTS ON SAME SIDE
1663	03060	R	202240	R	FINANG LAC XN
1664	03061	R	740001	A	CMA
1665	03062	R	345403	R	TAD (1
1666	03063	R	043234	R	DAC BASEXN
1667	03064	R	202241	R	LAC YN
1668	03065	R	740001	A	CMA
1669	03066	R	345403	R	TAD (1
1670	03067	R	043235	R	DAC BASEYN
1671	03070	R	202244	R	LAC XA
1672	03071	R	343234	R	TAD BASEXN
1673	03072	R	043222	R	DAC DELX
1674	03073	R	202245	R	LAC YA
1675	03074	R	343235	R	TAD BASEYN
1676	03075	R	043223	R	DAC DELY
1677	03076	R	202230	R	LAC XX
1678	03077	R	343234	R	TAD BASEXN
1679	03100	R	652000	A	LMQ
1680	03101	R	203223	R	LAC DELY
1681	03102	R	103236	R	JMS MULT
1682	03103	R	043224	R	DAC SUM1
1683	03104	R	641002	A	LACQ
1684	03105	R	043225	R	DAC SUM2
1685	03106	R	202231	R	LAC YY
1686	03107	R	343235	R	TAD BASEYN

1687	03110	R	652000	A	LMQ
1688	03111	R	203222	R	LAC DELX
1689	03112	R	103236	R	JMS MULT
1690	03113	R	103277	R	JMS DSUBS
1691	03114	R	203224	R	LAC SUM1
1692	03115	R	043226	R	DAC TOT1
1693	03116	R	203225	R	LAC SUM2
1694	03117	R	043227	R	DAC TOT2 / (TOT1,TOT2) HOLDS DIST OF (XX,YY) FROM OTHER LINE
1695	03120	R	202232	R	LAC XX1
1696	03121	R	343234	R	TAD BASEXN
1697	03122	R	652000	A	LMQ
1698	03123	R	203223	R	LAC DELY
1699	03124	R	103236	R	JMS MULT
1700	03125	R	043224	R	DAC SUM1
1701	03126	R	641002	A	LACQ
1702	03127	R	043225	R	DAC SUM2
1703	03130	R	202233	R	LAC YY1
1704	03131	R	343235	R	TAD BASEYN
1705	03132	R	652000	A	LMQ
1706	03133	R	203222	R	LAC DELX
1707	03134	R	103236	R	JMS MULT
1708	03135	R	103277	R	JMS DSUBS / (SUM1,SUM2) HOLDS DIST OF (XX1,YY1) FROM OTHER LINE
1709	03136	R	203226	R	LAC TOT1
1710	03137	R	303227	R	ADD TOT2
1711	03140	R	740200	A	SZA / POINT IS ON LINE
1712	03141	R	603146	R	JMP TOTN22
1713	03142	R	203221	R	LAC ZFLG
1714	03143	R	740200	A	SZA
1715	03144	R	603217	R	JMP NOKER / PT TO PT
1716	03145	R	603215	R	JMP KROZ
1717	03146	R	203224	R	TOTN22 LAC SUM1
1718	03147	R	303225	R	ADD SUM2
1719	03150	R	740200	A	SZA / PT ON LINE
1720	03151	R	603156	R	JMP SUMN22
1721	03152	R	203221	R	LAC ZFLG
1722	03153	R	740200	A	SZA
1723	03154	R	603217	R	JMP NOKER / PT TO PT
1724	03155	R	603215	R	JMP KROZ
1725	03156	R	203226	R	SUMN22 LAC TOT1
1726	03157	R	243224	R	XOR SUM1
1727	03160	R	740100	A	SMA
1728	03161	R	603217	R	JMP NOKER / SAME SIGN, SO PTS ON SAME SIDE
1729	03162	R	603215	R	JMP KROZ / DIFF SIDE, SO CROSSOVER
1730	03163	R	202244	R	COMMON LAC XA / TESTS IF LINES HAVE LCOMMON POINT
1731	03164	R	542232	R	SAD XX1 / IF SO,NO CROSSOVER
1732	03165	R	603175	R	JMP SAMX1
1733	03166	R	542230	R	SAD XX
1734	03167	R	741000	A	SKP
1735	03170	R	603200	R	JMP BOTHN
1736	03171	R	202245	R	LAC YA
1737	03172	R	542231	R	SAD YY
1738	03173	R	603217	R	JMP NOKER / COMMON PT

1739	03174	R	603200	R	J	BOTHN
1740	03175	R	202245	R	SAM	LAC YA
1741	03176	R	542233	R	SAD	YY1
1742	03177	R	603217	R	JMP	NOKER
1743	03200	R	202240	R	BOTHN	LAC XN
1744	03201	R	542232	R	SAD	XX1
1745	03202	R	603212	R	JMP	SAMX2
1746	03203	R	542230	R	SAD	XX
1747	03204	R	741000	A	SKP	
1748	03205	R	603215	R	JMP	KROZ
1749	03206	R	202241	R	LAC	YN
1750	03207	R	542231	R	SAD	YY
1751	03210	R	603217	R	JMP	NOKER
1752	03211	R	603215	R	JMP	KROZ
1753	03212	R	202241	R	SAMX2	LAC YN
1754	03213	R	542233	R	SAD	YY1
1755	03214	R	603217	R	JMP	NOKER
1756	03215	R	205403	R	KROZ	LAC (1
1757	03216	R	622636	R	JMP*	XOVER
1758	03217	R	750000	A	NOKER	CLA
1759	03220	R	622636	R	JMP*	XOVER
1760					/ SYMBOLS FOR ZOVER	
1761	03221	R	000000	A	ZFLG 0	/ FLAG ALSO USED IN EGGTES SUBROUTINE
1762	03222	R	000000	A	DELX	0
1763	03223	R	000000	A	DELY	0
1764	03224	R	000000	A	SUM1	0
1765	03225	R	000000	A	SUM2	0
1766	03226	R	000000	A	TOT1	0
1767	03227	R	000000	A	TOT2	0
1768	03230	R	000000	A	BASEX	0
1769	03231	R	000000	A	BASEY	0
1770	03232	R	000000	A	BASEX1	0
1771	03233	R	000000	A	BASEY1	0
1772	03234	R	000000	A	BASEXN	0
1773	03235	R	000000	A	BASEYN	0
1774	03236	R	740040	A	MULT XX / MULTIPLIES ACBYMQ, STORES SIGNED RESULT IN(BC,AQ)	
1775	03237	R	664000	A	GSM	
1776	03240	R	741400	A	SZL	
1777	03241	R	345403	R	TAD	(1 / AC-VE
1778	03242	R	043260	R	DAC	QUOT
1779	03243	R	205447	R	LAC	(-2
1780	03244	R	043275	R	DAC	MINUS / SIGN INDICATOR
1781	03245	R	741400	A	SZL	
1782	03246	R	443275	R	ISZ	MINUS / AC-VE
1783	03247	R	641002	A	LACQ	
1784	03250	R	740100	A	SMA	
1785	03251	R	603256	R	JMP	POZZ
1786	03252	R	443275	R	ISZ	MINUS / MQ-VE
1787	03253	R	740000	A	NOP / INCASE MINUS IS NOW 0	
1788	03254	R	740001	A	CMA	
1789	03255	R	345403	R	TAD	(1
1790	03256	R	744000	A	POZZ	CLL

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1791 03257 R 653122 A MUL
1792 03260 R 000000 A QUOT 0
1793 03261 R 443275 R ISZ MINUS
1794 03262 R 623236 R JMP* MULT / ANSWER +VE,EXIT
1795 03263 R 043276 R DAC TOP / NOW NEGATE DOUBLE LENFTH AC,MQ
1796 03264 R 641002 A LACQ
1797 03265 R 744001 A CLL!CMA
1798 03266 R 345373 R TAD (0
1799 03267 R 652000 A LMQ
1800 03270 R 203276 R LAC TOP / BOTTOM NEGATED
1801 03271 R 740001 A CMA
1802 03272 R 741400 A SZL / CARRIED FROM BOTTOM
1803 03273 R 345403 R TAD (1
1804 03274 R 623236 R JMP* MULT
1805 03275 R 000000 A MINUS 0
1806 03276 R 000000 A TOP 0
1807 03277 R 740040 A DSUBS XX / SUBTRACTS DOUBLE LENGTH NUMBER
1808 / IN(AC,MQ) FROM (SUM1,STM2)
1809 03300 R 740001 A CMA
1810 03301 R 343224 R TAD SUM1
1811 03302 R 043224 R DAC SUM1 / NEGATE(AC),ADD TO SUM1
1812 03303 R 641002 A LACQ
1813 03304 R 744001 A CLL!CMA
1814 03305 R 345403 R TAD (1 / NEGATE (MQ)
1815 03306 R 741400 A SZL
1816 03307 R 443224 R ISZ SUM1 / CARRY FROM NEGATD
1817 03310 R 740000 A NOP / INCASE OF 0
1818 03311 R 744000 A CLL
1819 03312 R 343225 R TAD SUM2
1820 03313 R 043225 R DAC SUM2 /ADD (-MQ) TO SUM2
1821 03314 R 741400 A SZL
1822 03315 R 443224 R ISZ SUM1 / CARRY FROM ADD
1823 03316 R 740000 A NOP
1824 03317 R 623277 R JMP* DSUBS
1825 03320 R 740040 A EGGTES XX / SEES IF CURRENT ROUTE SEGMENT IS CONNECTED TO A PAD
1826 / WHICH IS ONE SIDE ONLY AND SO CANNOT BE SWOPPED TO
1827 / OTHER SIDE. IF IT CAN, EXIT IS TO 2 WORDS AFTER JUMP.
1828 03321 R 143221 R DZM ZFLG
1829 03322 R 143412 R DZM CFLG
1830 03323 R 202234 R LAC JTHSEG
1831 03324 R 545373 R SAD (0
1832 03325 R 443221 R ISZ ZFLG / ZFG SET 1 IF 1ST SEG
1833 03326 R 740001 A CMA
1834 03327 R 342246 R TAD NPTS
1835 03330 R 740200 A SZA
1836 03331 R 603334 R JMP NAWLUST
1837 03332 R 443221 R ISZ ZFLG
1838 03333 R 443221 R ISZ ZFLG / ZFLG INCREASED BY 2 IF LAST SEG
1839 03334 R 203221 R NAWLUST LAC ZFLG
1840 03335 R 741200 A SNA
1841 03336 R 603410 R JMP YUP / CAN BE SWOPPED, NOT 1ST OR LAST SEG
1842 / ZFLG IS NOW=1 IF SEG IS 1ST IN ROUTE, =2 IF LAST

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1843 / 000=3 IF BOTH 1ST AND LAST IE SINGLE SEG.
1844 03337 R 202221 R LAC COMPT
1845 03340 R 345447 R TAD (-2
1846 03341 R 103414 R JMS LOCSUB / GET NODE POSITION, STORE IN XP, YP
1847 03342 R 202226 R LAC COMPT
1848 03343 R 225407 R LAC* (16 / 4TH WORD OF COMPT ENTRY
1849 03344 R 505463 R AND (3000
1850 03345 R 740200 A SZA / COMP IS NOT SINGLE SIDED
1851 03346 R 603363 R JMP ENDTST
1852 03347 R 202221 R OTHNOD LAC COMPT / TEST OTHER COMP
1853 03350 R 345442 R TAD (-1
1854 03351 R 103414 R JMS LOCSUB / GET NODE POSN.
1855 03352 R 202227 R LAC OTHCOMP
1856 03353 R 225407 R LAC* (16 / 4TH WD OF COMP
1857 03354 R 505463 R AND (3000
1858 03355 R 741200 A SNA
1859 03356 R 603410 R JMP YUP / NEITHER COMP IS SINGLE SIDED, SO CAN SWOP
1860 03357 R 203412 R LAC CFLG
1861 03360 R 740200 A SZA / OTHCOMP HAS NOT BEEN TESTED YET
1862 03361 R 603411 R JMP NOPE / BOTH COMPS SINGLE SIDED, SO CANT SWOP
1863 03362 R 443412 R ISZ CFLG / SET TO INDICATE OTHCOMP TESTED
1864 03363 R 203221 R ENDTST LAC ZFLG / COMP(CFLG=0) OR OTHER COMP (CFLG=1)
1865 / IS SINGLE SIDED, NOW SEE IF SEG IS CONNECTED TO RELEVANT COMP
1866 03364 R 545365 R SAD (3
1867 03365 R 603411 R JMP NOPE / ONE END OF ROUTE IS SINGLE SIDED, AND SEG IS ONLY ONE
1868 / IN ROUTE, RO CANT SWOP
1869 03366 R 204654 R LAC BUFF+1 / XCOORD OF 1RT POINT IN ROUTE
1870 03367 R 542257 R SAD XP / COORD OF COMP/OTHCOMP PAD
1871 03370 R 741000 A SKP
1872 03371 R 603402 R JMP LASTPT / XP, YP MUST BE LAST OF ROUTE
1873 03372 R 204655 R LAC BUFF+2 / Y COORD 1ST PT
1874 03373 R 542260 R SAD YP
1875 03374 R 741000 A SKP
1876 03375 R 603402 R JMP LASTPT
1877 03376 R 203221 R FIRSTPT LAC ZFLG / XP, YP IS 1ST PT OF ROUTE
1878 03377 R 545403 R SAD (1
1879 03400 R 603411 R JMP NOPE / SEG IS 1ST, AND COMP AT THIS END IS SINGLE SIDED
1880 03401 R 603405 R JMP CTST
1881 03402 R 203221 R LASTPT LAC ZFLG
1882 03403 R 545370 R SAD (2
1883 03404 R 603411 R JMP NOPE
1884 03405 R 203412 R CTST LAC CFLG / HAS OTHCOMP BEEN TESTED?
1885 03406 R 741200 A SNA
1886 03407 R 603347 R JMP OTHNOD
1887 03410 R 443320 R YUP ISZ EGGTES
1888 03411 R 623320 R NOPE JMP* EGGTES
1889 03412 R 000000 A CFLG 0 / TEST INDICATOR
1890 03413 R 000000 A PTER 0 / ABS POINTER TO ROUTE
1891 03414 R 740040 A LOCSUB XX / AC POINTS TO 2ND WD OF CONN, GETS NODE NO
1892 03415 R 043413 R DAC PTER / AND CALLS SUBNOD
1893 03416 R 423414 R XCT* LOCSUB / PARAM FOR SUBNOD
1894 03417 R 043435 R DAC KOMPT

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1895 03420 R 223413 R LAC* PTER
1896 03421 R 505406 R AND (??
1897 03422 R 045276 R DAC NOD
1898 03423 R 125352 E JMS* SUBNOD
1899 03424 R 603433 R JMP .+1+6
1900 03425 R 002257 R .DSA XP
1901 03426 R 002260 R .DSA YP
1902 03427 R 000000 A SARG1 0
1903 03430 R 000000 A SARG2 0
1904 03431 R 003435 R .DSA KOMPT
1905 03432 R 005276 R .DSA NOD
1906 03433 R 443414 R ISZ LOCSUB
1907 03434 R 623414 R JMP* LOCSUB
1908 03435 R 000000 A KOMPT 0 / (REL PTER TO COMP)/6
1909 703022 A RS2=703022
1910 /
1911 /
1912 /
1913 03436 R 205274 R MODIFY LAC MESS
1914 03437 R 652000 A LMQ
1915 03440 R 205445 R LAC (MESSA
1916 03441 R 165274 R DZM* MESS
1917 03442 R 125345 E JMS* MESS1
1918 03443 R 460001 R ISZ* MSFLAG /BUG9
1919 03444 R 205374 R LAC (BUFF
1920 03445 R 044107 R DAC CPEOCP+1
1921 03446 R 044205 R DAC RTOFRT+1
1922 03447 R 145260 R DZM CFLAG
1923 03450 R 145261 R DZM CFLAG2
1924 03451 R 104240 R JMS KEYS
1925 03452 R 045272 R DAC KEYVAL
1926 03453 R 125341 E SEARCH JMS* DFLPK
1927 03454 R 603456 R JMP .+2
1928 03455 R 005434 R .DSA (14 / LOOK FOR COPPER AND ROUTES
1929 03456 R 741100 A SPA
1930 03457 R 600113 R JMP DRAW5
1931 03460 R 045266 R DAC DISFAD* / D.F. ADDR
1932 03461 R 225266 R LAC* DISFAD
1933 03462 R 741100 A SPA
1934 03463 R 604122 R JMP COPPER / SAW COPPER
1935 /
1936 / ROUTE MODIFICATION REQUIRED
1937 03464 R 145270 R DZM FALG#
1938 03465 R 045311 R DAC SCAN /POINTER TO D.S
1939 03466 R 104144 R JMS GETRUT / READ ROUTE DESTRUCTIVELY
1940 03467 R 777774 A LAW -4 / GET PTR ETC.
1941 03470 R 344653 R TAD BUFF
1942 03471 R 741100 A SPA
1943 03472 R 603635 R JMP PACKIT / REPLACE ROUTE
1944 03473 R 740001 A CMA
1945 03474 R 045262 R DAC CNTR* / -NO OF VALID SEGS
1946 03475 R 205374 R LAC (BUFF

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1947	03476	R	723006	A	AN 6
1948	03477	R	065410	R	DAC* (17
1949	03500	R	220017	A	LOOP2 LAC* 17
1950	03501	R	045325	R	DAC X1#
1951	03502	R	220017	A	LAC* 17
1952	03503	R	045332	R	DAC Y1#
1953	03504	R	652000	A	LMQ
1954	03505	R	205325	R	LAC X1
1955	03506	R	125351	E	JMS* SCALUP / PUT INTO SCREEN UNITS
1956	03507	R	104275	R	JMS CUT
1957	03510	R	565356	E	SAD* XPEN
1958	03511	R	741000	A	SKP
1959	03512	R	603517	R	JMP NEXT
1960	03513	R	641002	A	LACQ
1961	03514	R	104275	R	JMS CUT
1962	03515	R	565361	E	SAD* YPEN
1963	03516	R	603523	R	JMP GOTIT / FOUND REQUIRED SEG
1964	03517	R	220017	A	NEXT LAC* 17 / BUMP POINTER
1965	03520	R	445262	R	ISZ CNTR
1966	03521	R	603500	R	JMP LOOP2
1967	03522	R	603635	R	JMP PACKIT / NOT A VALID SEGMENT
1968					/
1969					/ NOW ELIMINATE ANGLED SEGMENT
1970					/
1971	03523	R	205260	R	GOTIT LAC CFLAG
1972	03524	R	740200	A	SZA
1973	03525	R	603671	R	JMP CU2
1974	03526	R	145320	R	DZM TYPE#
1975	03527	R	225410	R	LAC* (17
1976	03530	R	723773	A	AAC -5
1977	03531	R	065410	R	DAC* (17
1978	03532	R	220017	A	LAC* 17
1979	03533	R	045326	R	DAC X2#
1980	03534	R	545325	R	SAD X1
1981	03535	R	603543	R	JMP VERT / VERTICAL SEGMENT
1982	03536	R	220017	A	LAC* 17
1983	03537	R	045333	R	DAC Y2#
1984	03540	R	545332	R	SAD Y1
1985	03541	R	603546	R	JMP .+5
1986	03542	R	603635	R	JMP PACKIT / ANGLED SEGMENT
1987	03543	R	220017	A	VERT LAC* 17
1988	03544	R	045333	R	DAC Y2
1989	03545	R	741000	A	SKP
1990	03546	R	445320	R	ISZ TYPE /=1 FOR HORIZONTAL
1991					/
1992					/ POSITION CROSS AT MIDDLE OF SELECTED SEGMENT
1993					/
1994	03547	R	205332	R	LAC Y1
1995	03550	R	652000	A	LMQ
1996	03551	R	205325	R	LAC X1
1997	03552	R	125351	E	JMS* SCALUP
1998	03553	R	104275	R	JMS CUT

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1999      03554 R 045324 R    DAC XS1#
2000      03555 R 641002 A    LACQ
2001      03556 R 104275 R    JMS CUT
2002      03557 R 045331 R    DAC YS1#
2003      03560 R 205333 R    LAC Y2
2004      03561 R 652000 A    LMQ
2005      03562 R 205326 R    LAC X2
2006      03563 R 125351 E    JMS* SCALUP
2007      03564 R 104275 R    JMS CUT
2008      03565 R 345324 R    TAD XS1
2009      03566 R 744020 A    RCR
2010      03567 R 044236 R    DAC XCROSS
2011      03570 R 641002 A    LACQ
2012      03571 R 104275 R    JMS CUT
2013      03572 R 345331 R    TAD YS1
2014      03573 R 744020 A    RCR
2015      03574 R 044237 R    DAC YCROSS
2016
2017      /
2018      / NOW SET I.R.'S 15 16 17 AT LOCATIONS TO BE
2019      / UPDATED
2020
2020      03575 R 205274 R    LAC MESS
2021      03576 R 652000 A    LMQ
2022      03577 R 205464 R    LAC (MESSB / BUTTON TO RELEASE
2023      03600 R 165274 R    DZM* MESS
2024      03601 R 125345 E    JMS* MESS1
2025      03602 R 145264 R    DZM CRSFLG
2026      03603 R 225410 R    LOOP3 LAC* (17
2027      03604 R 723776 A    AAC -2 / UPDATE X IF TYPE=0
2028      03605 R 345320 R    TAD TYPE / UPDATE Y IF TYPE=1
2029      03606 R 065407 R    DAC* (16
2030      03607 R 723003 A    AAC 3
2031      03610 R 065410 R    DAC* (17
2032      03611 R 104214 R    JMS CROSS / SET UP TRACKING PATTERN
2033      03612 R 204236 R    LAC XCROSS
2034      03613 R 045325 R    DAC X1
2035      03614 R 205320 R    LAC TYPE
2036      03615 R 740200 A    SZA
2037      03616 R 603621 R    JMP .+3
2038      03617 R 205325 R    LAC X1 /NEW X
2039      03620 R 741000 A    SKP
2040      03621 R 204237 R    LAC YCROSS /NEW Y
2041      03622 R 060016 A    DAC* 16
2042      03623 R 060017 A    DAC* 17
2043      03624 R 225410 R    LAC* (17
2044      03625 R 045271 R    DAC IR17#
2045      03626 R 445270 R    ISZ FALG
2046      03627 R 104240 R    JMS KEYS
2047      03630 R 245272 R    XOR KEYVAL
2048      03631 R 741200 A    SNA
2049      03632 R 603635 R    JMP .+3
2050      03633 R 145270 R    DZM FALG

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2051      03634 R 045272 R      DAC KEYVAL
2052      /
2053      / PACKIT - WRITE ROUTE INTO ROUTES ARRAY
2054      /
2055      03635 R 103761 R      PACKIT JMS PACK
2056      03636 R 220001 R      LAC* MSFLAG /BUG9
2057      03637 R 545370 R      SAD (2 /BUG9
2058      03640 R 741000 A      SKP /BUG9
2059      03641 R 603646 R      JMP .+5 /BUG9
2060      03642 R 205403 R      LAC (1
2061      03643 R 060001 R      DAC* MSFLAG /BUG9
2062      03644 R 445270 R      ISZ FALG /BUG9
2063      03645 R 603655 R      JMP .+10 /BUG9
2064      03646 R 205270 R      LAC FALG
2065      03647 R 740200 A      SZA
2066      03650 R 603655 R      JMP .+5
2067      03651 R 205272 R      LAC KEYVAL
2068      03652 R 545440 R      SAD (10000
2069      03653 R 600063 R      JMP START /BUTTON 6
2070      03654 R 601451 R      JMP MODFY+5 /ANY OTHER BUTTON
2071      03655 R 205320 R      LAC TYPE
2072      03656 R 740031 A      TCA
2073      03657 R 345271 R      TAD IR17
2074      03660 R 723776 A      AAC -2
2075      03661 R 065410 R      DAC* (17
2076      03662 R 205260 R      LAC CFLAG
2077      03663 R 740200 A      SZA
2078      03664 R 603603 R      JMP LOOP3
2079      03665 R 225311 R      LAC* SCAN
2080      03666 R 505400 R      AND (77777
2081      03667 R 045266 R      DAC DISFAD
2082      03670 R 603603 R      JMP LOOP3
2083      /
2084      /
2085      /
2086      /
2087      03671 R 445262 R      CU2 ISZ CNTR
2088      03672 R 741000 A      SKP
2089      03673 R 603701 R      JMP RTATE /LAST SEG
2090      03674 R 205262 R      LAC CNTR
2091      03675 R 344653 R      TAD BUFF
2092      03676 R 723775 A      AAC -3
2093      03677 R 740100 A      SMA
2094      03700 R 603526 R      JMP GOTIT+3
2095      03701 R 205374 R      RTATE LAC (BUFF
2096      03702 R 723002 A      AAC 2
2097      03703 R 065465 R      DAC* (10
2098      03704 R 205466 R      LAC (BUFF1
2099      03705 R 065446 R      DAC* (11
2100      03706 R 204653 R      LAC BUFF
2101      03707 R 744010 A      RCL
2102      03710 R 344653 R      TAD BUFF

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2103	03711 R 723772 A	AAC -6
2104	03712 R 740031 A	TCA
2105	03713 R 045262 R	DAC CNTR
2106	03714 R 220010 A	LAC* 10
2107	03715 R 045313 R	DAC SIDE1
2108	03716 R 220010 A	LAC* 10
2109	03717 R 060011 A	DAC* 11
2110	03720 R 045324 R	DAC XS1
2111	03721 R 220010 A	LAC* 10
2112	03722 R 060011 A	DAC* 11
2113	03723 R 045331 R	DAC YS1
2114	03724 R 220010 A	LAC* 10
2115	03725 R 060011 A	DAC* 11
2116	03726 R 445262 R	ISZ CNTR
2117	03727 R 603724 R	JMP .-3
2118	03730 R 205313 R	LAC SIDE1
2119	03731 R 060011 A	DAC* 11
2120	03732 R 205324 R	LAC XS1
2121	03733 R 060011 A	DAC* 11
2122	03734 R 205331 R	LAC YS1
2123	03735 R 060011 A	DAC* 11
2124	03736 R 204653 R	LAC BUFF
2125	03737 R 744010 A	RCL
2126	03740 R 344653 R	TAD BUFF
2127	03741 R 740031 A	TCA
2128	03742 R 740030 A	IAC
2129	03743 R 045262 R	DAC CNTR
2130	03744 R 205374 R	LAC (BUFF
2131	03745 R 065410 R	DAC* (17
2132	03746 R 065446 R	DAC* (11
2133	03747 R 205466 R	LAC (BUFF1
2134	03750 R 065465 R	DAC* (10
2135	03751 R 220010 A	LAC* 10
2136	03752 R 060011 A	DAC* 11
2137	03753 R 445262 R	ISZ CNTR
2138	03754 R 603751 R	JMP .-3
2139	03755 R 204653 R	LAC BUFF
2140	03756 R 740031 A	TCA
2141	03757 R 045262 R	DAC CNTR
2142	03760 R 603500 R	JMP LOOP2
2143	03761 R 740040 A	PACK XX
2144	03762 R 204653 R	LAC BUFF
2145	03763 R 744010 A	RCL
2146	03764 R 344653 R	TAD BUFF
2147	03765 R 740031 A	TCA
2148	03766 R 045262 R	DAC CNTR
2149	03767 R 205453 R	LAC (BUFF-1
2150	03770 R 065465 R	DAC* (10
2151	03771 R 205467 R	LAC (BUFF1-1
2152	03772 R 065446 R	DAC* (11
2153	03773 R 220010 A	LAC* 10 / COPY BUFFER
2154	03774 R 060011 A	DAC* 11 / ACROSS

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2155      03775 R 445262 R      IS CNTR
2156      03776 R 603773 R      JMP .-3
2157
2158      / WRITE ROUTE
2159      /
2160      03777 R 205260 R      LAC CFLAG
2161      04000 R 740200 A      SZA
2162      04001 R 604035 R      JMP CU3
2163      04002 R 220012 R      LAC* EOROUT
2164      04003 R 045310 R      DAC RUTPTR
2165      04004 R 340011 R      TAD ROUTAD
2166      04005 R 723777 A      AAC -1
2167      04006 R 045254 R      DAC ARG100#
2168      04007 R 750001 A      CLC /STATUS BIT INVALID
2169      04010 R 125355 E      JMS* WRITRT
2170      04011 R 604020 R      JMP .+7
2171      04012 R 005254 R      ARG1 .DSA ARG100 / ROUTES(EOROUT)
2172      04013 R 005053 R      .DSA BUFF1
2173      04014 R 000000 A      0 / EOROUT
2174      04015 R 000000 A      0 / CONNEX(1)
2175      04016 R 000000 A      0 /EOCONN
2176      04017 R 005266 R      .DSA DISFAD / DISPLAY FILE ADDR.
2177      04020 R 205311 R      LAC SCAN
2178      04021 R 652000 A      LMQ
2179      04022 R 205371 R      LAC (4
2180      04023 R 125342 E      JMS* DRAWCP
2181      04024 R 205270 R      LAC FALG
2182      04025 R 741200 A      SNA
2183      04026 R 623761 R      JMP* PACK
2184      04027 R 205466 R      LAC (BUFF1
2185      04030 R 044205 R      DAC RTOFRT+1
2186      04031 R 104175 R      JMS DESTRY
2187      04032 R 225311 R      LAC* SCAN
2188      04033 R 045266 R      DAC DISFAD
2189      04034 R 623761 R      JMP* PACK
2190      04035 R 220014 R      CU3 LAC* EOCOPP
2191      04036 R 045310 R      DAC RUTPTR
2192      04037 R 340013 R      TAD COPPAD
2193      04040 R 723777 A      AAC -1
2194      04041 R 045255 R      DAC ARG400#
2195      04042 R 125355 E      JMS* WRITRT
2196      04043 R 604052 R      JMP .+7
2197      04044 R 005255 R      ARG4 .DSA ARG400
2198      04045 R 005053 R      .DSA BUFF1
2199      04046 R 000000 A      0 /EOCOPP
2200      04047 R 000000 A      0 /CONNEX(1)
2201      04050 R 005403 R      .DSA (1
2202      04051 R 005266 R      .DSA DISFAD
2203      04052 R 205310 R      LAC RUTPTR
2204      04053 R 652000 A      LMQ
2205      04054 R 205261 R      LAC CFLAG2
2206      04055 R 741200 A      SNA

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2207 04056 R 445261 R ISZ CFLAG2
2208 04057 R 740030 A IAC
2209 04060 R 125342 E JMS* DRAWCP /DRAW OR REPLACE COPPER
2210 04061 R 205270 R LAC FALG
2211 04062 R 205270 R LAC FALG /BUG9
2212 04063 R 740200 A SZA /BUG9
2213 04064 R 604071 R JMP .+5 /BUG9
2214 04065 R 220001 R LAC* MSFLAG
2215 04066 R 545370 R SAD (2 /BUG9
2216 04067 R 741000 A SKP
2217 04070 R 623761 R JMP* PACK /BUG9
2218 04071 R 205466 R LAC (BUFF1
2219 04072 R 044107 R DAC CPEOCP+1
2220 04073 R 104075 R JMS GETCOP
2221 04074 R 623761 R JMP* PACK
2222 /
2223 /
2224 /
2225 /
2226 /
2227 04075 R 740040 A GETCOP XX
2228 04076 R 205310 R LAC RUTPTR
2229 04077 R 340013 R TAD COPPAD
2230 04100 R 723777 A AAC -1
2231 04101 R 045263 R DAC CPEOCQ#
2232 04102 R 220014 R LAC* EOCOPP
2233 04103 R 045312 R DAC SHIFT#
2234 04104 R 125347 E JMS* READRT
2235 04105 R 604115 R JMP .+10
2236 04106 R 005263 R CPEOCP .DSA CPEOCQ
2237 04107 R 004653 R .DSA BUFF
2238 04110 R 000000 A 0 /EOCOPP
2239 04111 R 005373 R .DSA (0
2240 04112 R 005310 R .DSA RUTPTR
2241 04113 R 000000 A 0 /CONNEX(1)
2242 04114 R 005403 R .DSA (1
2243 04115 R 220014 R LAC* EOCOPP
2244 04116 R 740031 A TCA
2245 04117 R 345312 R TAD SHIFT
2246 04120 R 045312 R DAC SHIFT /NO. OF WORDS REMOVED
2247 04121 R 624075 R JMP* GETCOP
2248 04122 R 340013 R COPPER TAD COPPAD
2249 04123 R 740031 A TCA
2250 04124 R 740030 A IAC
2251 04125 R 045310 R DAC RUTPTR
2252 04126 R 104075 R JMS GETCOP
2253 04127 R 205266 R LAC DISFAD
2254 04130 R 652000 A LMQ
2255 04131 R 740031 A TCA
2256 04132 R 125342 E JMS* DRAWCP /DELETE FROM DISPLAY FILE
2257 04133 R 104245 R JMS UPDATE
2258 04134 R 145270 R DZM FALG

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2259	04135	R	204653	R	LA BUFF
2260	04136	R	740031	A	TCA
2261	04137	R	045262	R	DAC CNTR
2262	04140	R	205374	R	LAC (BUFF
2263	04141	R	065410	R	DAC* (17
2264	04142	R	445260	R	ISZ CFLAG
2265	04143	R	603500	R	JMP LOOP2
2266	04144	R	740040	A	GETRUT XX
2267	04145	R	205311	R	LAC SCAN
2268	04146	R	723776	A	AAC -2
2269	04147	R	045311	R	DAC SCAN*
2270	04150	R	744000	A	CLL
2271	04151	R	225311	R	LAC* SCAN
2272	04152	R	640511	A	LRS 11
2273	04153	R	045267	R	DAC DISNO*
2274	04154	R	744010	A	RCL
2275	04155	R	345267	R	TAD DISNO
2276	04156	R	744010	A	RCL
2277	04157	R	340005	R	TAD COMPAD
2278	04160	R	045267	R	DAC DISNO
2279	04161	R	445311	R	ISZ SCAN
2280	04162	R	225311	R	LAC* SCAN
2281	04163	R	652000	A	LMQ
2282	04164	R	445311	R	ISZ SCAN
2283	04165	R	225311	R	LAC* SCAN
2284	04166	R	744010	A	RCL
2285	04167	R	742010	A	RTL
2286	04170	R	505365	R	AND (3
2287	04171	R	640614	A	LLS 14
2288	04172	R	045310	R	DAC R*UTPTR
2289	04173	R	104175	R	JMS DESTRY
2290	04174	R	624144	R	JMP* GETRUT
2291	04175	R	740040	A	DESTRY XX
2292	04176	R	205310	R	LAC RUTPTR
2293	04177	R	340011	R	TAD ROUTAD
2294	04200	R	723777	A	AAC -1
2295	04201	R	045307	R	DAC RUOFRT* /ROUTES(POINTER)
2296	04202	R	125347	E	JMS* READRT
2297	04203	R	604213	R	JMP .+1+7
2298	04204	R	005307	R	RTOFRT .DSA RUOFRT
2299	04205	R	004653	R	.DSA BUFF
2300	04206	R	000000	A	0 /EOROUT
2301	04207	R	005373	R	.DSA (0 /DESTRUCTIVE READ
2302	04210	R	005310	R	.DSA RUTPTR
2303	04211	R	000000	A	0 /CONNEX(1)
2304	04212	R	000000	A	0 /EOCONN
2305	04213	R	624175	R	JMP* DESTRY
2306					/
2307					/
2308					/
2309					/
2310	04214	R	740040	A	CROSS XX

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2311      04215 R 205264 R      LAC CRSFLG
2312      04216 R 740200 A      SZA
2313      04217 R 604231 R      JMP INFILE
2314      04220 R 445264 R      ISZ CRSFLG
2315      04221 R 225346 E      LAC* MF.101
2316      04222 R 044225 R      DAC .+3
2317      .WRITE 10.3.0.0
          04223 R 003010 A *G      CAL+3*1000 10&777
          04224 R 000011 A *G      11
          04225 R 000000 A *G      0
          *G      .DEC
          *G      -0
2318      04227 R 204236 R      LAC XCROSS
2319      04230 R 204237 R      LAC YCROSS
2320      04231 R 125354 E      INFILE JMS* TRACK
2321      04232 R 624214 R      JMP* CROSS
2322      04233 R 004236 R      .DSA XCROSS
2323      04234 R 004237 R      .DSA YCROSS
2324      04235 R 005403 R      .DSA (1
2325      /
2326      /
2327      04236 R 000777 A      XCROSS 777
2328      04237 R 000777 A      YCROSS 777
2329      /
2330      /
2331      /
2332      /
2333      04240 R 740040 A      KEYS XX
2334      04241 R 750000 A      CLA
2335      04242 R 703022 A      703022
2336      04243 R 505452 R      AND (770000
2337      04244 R 624240 R      JMP* KEYS
2338      /
2339      /
2340      04245 R 740040 A      UPDATE XX
2341      04246 R 225337 E      LAC* DFADDR
2342      04247 R 065465 R      DAC* (10 /FIRST WORD DFILE
2343      04250 R 045266 R      DAC DISFAD
2344      04251 R 365266 R      TAD* DISFAD
2345      04252 R 045266 R      DAC DISFAD /ADDRESS OF LAST WORD DFILE
2346      04253 R 220010 A      LOOPYC LAC* 10
2347      04254 R 565266 R      SAD* DISFAD
2348      04255 R 624245 R      JMP* UPDATE
2349      04256 R 545436 R      SAD (235177 /SKP FOR COPPER
2350      04257 R 741000 A      SKP
2351      04260 R 604253 R      JMP LOOPYC
2352      04261 R 220010 A      LAC* 10
2353      04262 R 740100 A      SMA /POINTER TO COPPER
2354      04263 R 604253 R      JMP LOOPYC /NO
2355      04264 R 345263 R      TAD CPEOCQ
2356      04265 R 740100 A      SMA /ABOVE IN D.S
2357      04266 R 604253 R      JMP LOOPYC /NO

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2358 04267 R 225465 R LA (10  
 2359 04270 R 045317 R DAC TEMP\*  
 2360 04271 R 225317 R LAC\* TEMP  
 2361 04272 R 345312 R TAD SHIFT  
 2362 04273 R 065317 R DAC\* TEMP  
 2363 04274 R 604253 R JMP LOOPYC

2364 /  
 2365 /  
 2366 /  
 2367 04275 R 740040 A CUT XX

2368 04276 R 741100 A SPA  
 2369 04277 R 750000 A CLA  
 2370 04300 R 345470 R TAD (-1777  
 2371 04301 R 740100 A SMA  
 2372 04302 R 750000 A CLA  
 2373 04303 R 345422 R TAD (1777  
 2374 04304 R 624275 R JMP\* CUT

2375 /  
 2376 /  
 2377 /  
 2378 /  
 2379 /  
 2380 04305 R 740040 A SWOPIT XX  
 2381 04306 R 125353 E JMS\* SWOPSD  
 2382 04307 R 624305 R JMP\* SWOPIT  
 2383 04310 R 000000 A SYDE 0

2384 /  
 2385 /  
 2386 /  
 2387 /  
 2388 /  
 2389 04311 R 001750 A YONE 1750  
 2390 04312 R 000000 A 0

2391 04313 R 202270 A .ASCII / KEY OP, 1 DRAW, 2 DELETE, 3 COPPER, 4 SIDES, 5/

04314 R 554500 A  
 04315 R 202372 A  
 04316 R 026100 A  
 04317 R 201424 A  
 04320 R 042244 A  
 04321 R 406565 A  
 04322 R 420100 A  
 04323 R 311010 A  
 04324 R 442630 A  
 04325 R 426510 A  
 04326 R 526100 A  
 04327 R 201464 A  
 04330 R 041636 A  
 04331 R 502410 A  
 04332 R 551130 A  
 04333 R 201006 A  
 04334 R 420246 A  
 04335 R 446110 A

2392 04336 R 551530 A  
04337 R 201006 A  
04340 R 500000 A  
04341 R 202112 A .ASCII / DRAWALL, 6 EXIT/\_  
04342 R 240656 A  
04343 R 406311 A  
04344 R 426100 A  
04345 R 201544 A  
04346 R 042660 A  
04347 R 446513 A  
04350 R 700000 A  
2393 04351 R 001750 A YTHREE 1750  
2394 04352 R 000000 A 0  
2395 04353 R 502310 A .ASCII /PLACE CROSS,HIT BUTTON,SELECT CONN/\_  
04354 R 141612 A  
04355 R 202072 A  
04356 R 247646 A  
04357 R 515311 A  
04360 R 044650 A  
04361 R 202052 A  
04362 R 552250 A  
04363 R 476345 A  
04364 R 451612 A  
04365 R 462130 A  
04366 R 352100 A  
04367 R 416371 A  
04370 R 647276 A  
2396 04371 R 001750 A YFOUR 1750  
2397 04372 R 000000 A 0  
2398 04373 R 202270 A .ASCII / KEY OP, 1 CORNER, 2 FINISH, 3 ANGLE, 4 THRU, 5 WINDOW/\_  
04374 R 554500 A  
04375 R 202372 A  
04376 R 026100 A  
04377 R 201424 A  
04400 R 041636 A  
04401 R 512350 A  
04402 R 551130 A  
04403 R 201006 A  
04404 R 220214 A  
04405 R 446351 A  
04406 R 151620 A  
04407 R 261004 A  
04410 R 031500 A  
04411 R 406350 A  
04412 R 746212 A  
04413 R 261004 A  
04414 R 032100 A  
04415 R 522212 A  
04416 R 252530 A  
04417 R 201006 A  
04420 R 520256 A  
04421 R 446350 A



	04422	R	447656	A	
	04423	R	260000	A	
	04424	R	000000	A	
2399	04425	R	201006	A	.ASCII / 6 ABORT_/_
	04426	R	620202	A	
	04427	R	412372	A	
	04430	R	252276	A	
2400	04431	R	001750	A	YSIX 1750
2401	04432	R	000000	A	0
2402	04433	R	516131	A	.ASCII /SELECT, ITEM_/_
	04434	R	442606	A	
	04435	R	521304	A	
	04436	R	044650	A	
	04437	R	426333	A	
	04440	R	700000	A	
2403	04441	R	001750	A	YSEVEN 1750
2404	04442	R	000000	A	0
2405	04443	R	442232	A	.ASCII /HIT BUTTON, 6 TO RESTORE_/_
	04444	R	420204	A	
	04445	R	526512	A	
	04446	R	447634	A	
	04447	R	261544	A	
	04450	R	052236	A	
	04451	R	202450	A	
	04452	R	551650	A	
	04453	R	476450	A	
	04454	R	557400	A	
2406	04455	R	001750	A	YEIGHT 1750
2407	04456	R	000000	A	0
2408	04457	R	502310	A	.ASCII /PLACE CROSS, HIT BUTTON, 6 TO EXIT_/_
	04460	R	141612	A	
	04461	R	202072	A	
	04462	R	247646	A	
	04463	R	515311	A	
	04464	R	044650	A	
	04465	R	202052	A	
	04466	R	552250	A	
	04467	R	476345	A	
	04470	R	420154	A	
	04471	R	202511	A	
	04472	R	720212	A	
	04473	R	542232	A	
	04474	R	457400	A	
2409	04475	R	001750	A	YNINE 1750
2410	04476	R	000000	A	0
2411	04477	R	202270	A	.ASCII / KEY OP, 1 GLOBAL, 2, 3, 4, 5, 6 LOCAL_/_
	04500	R	554500	A	
	04501	R	202372	A	
	04502	R	026100	A	
	04503	R	201424	A	
	04504	R	043630	A	
	04505	R	476050	A	

04506 R 146130 A  
 04507 R 201006 A  
 04510 R 226100 A  
 04511 R 201465 A  
 04512 R 420100 A  
 04513 R 321304 A  
 04514 R 020152 A  
 04515 R 261004 A  
 04516 R 033100 A  
 04517 R 462370 A  
 04520 R 340630 A  
 04521 R 574000 A  
 04522 R 000000 A

2412  
 2413  
 2414  
 2415

/ BUTTON 3 #1 \*\*\*\*\*  
 YELEN 1750

0  
 .ASCII / KEY OP, 1 INSERT C, 2 MOVE C, 3 SIDES, /

04523 R 001750 A  
 04524 R 000000 A  
 04525 R 202270 A  
 04526 R 554500 A  
 04527 R 202372 A  
 04530 R 026100 A  
 04531 R 201424 A  
 04532 R 044634 A  
 04533 R 516132 A  
 04534 R 252100 A  
 04535 R 415304 A  
 04536 R 020144 A  
 04537 R 202331 A  
 04540 R 753212 A  
 04541 R 202065 A  
 04542 R 420100 A  
 04543 R 315012 A  
 04544 R 344610 A  
 04545 R 426465 A  
 04546 R 400000 A

2416

.ASCII / 4 SWOP SEG, 5 MOVE SEG, 6 EXIT\_ /

04547 R 201006 A  
 04550 R 420246 A  
 04551 R 536372 A  
 04552 R 020246 A  
 04553 R 426165 A  
 04554 R 420100 A  
 04555 R 325011 A  
 04556 R 547654 A  
 04557 R 425012 A  
 04560 R 342616 A  
 04561 R 261004 A  
 04562 R 033100 A  
 04563 R 426611 A  
 04564 R 152276 A

2417  
 2418  
 2419

YTWEL 1750

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 .ASCII / SELECT, CONNEXION\_ /

04565 R 001750 A  
 04566 R 000000 A  
 04567 R 202470 A  
 04570 R 546212 A

04571 R 416505 A  
 04572 R 420206 A  
 04573 R 476351 A  
 04574 R 642660 A  
 04575 R 446371 A  
 04576 R 657400 A  
 04577 R 001750 A  
 04600 R 000000 A  
 04601 R 202211 A  
 04602 R 152100 A  
 04603 R 412532 A  
 04604 R 452236 A  
 04605 R 472465 A  
 04606 R 420144 A  
 04607 R 202031 A  
 04610 R 642100 A  
 04611 R 321304 A  
 04612 R 052236 A  
 04613 R 202071 A  
 04614 R 747250 A  
 04615 R 446352 A  
 04616 R 542676 A  
 04617 R 001750 A  
 04620 R 000000 A  
 04621 R 202270 A  
 04622 R 554500 A  
 04623 R 476405 A  
 04624 R 420100 A  
 04625 R 305012 A  
 04626 R 242630 A  
 04627 R 426032 A  
 04630 R 342530 A  
 04631 R 201006 A  
 04632 R 220244 A  
 04633 R 426310 A  
 04634 R 540646 A  
 04635 R 425304 A  
 04636 R 020146 A  
 04637 R 202450 A  
 04640 R 546212 A  
 04641 R 406470 A  
 04642 R 526100 A  
 04643 R 201505 A  
 04644 R 400000 A  
 04645 R 201006 A  
 04646 R 520256 A  
 04647 R 446350 A  
 04650 R 447656 A  
 04651 R 261004 A  
 04652 R 033276 A  
 04653 R A  
 05053 R A

YTEN 1750

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.ASCII / HIT BUTTONS, 2 AND 4, TO CONTINUE\_/\_

MESSD 1750 /#2 \*~\*~\*~\*~\*~\*~\*~\*

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.ASCII / KEY OP, 1 RELEASE, 2 RELEASE, 3 RELEASE, 4, /

.ASCII / 5 WINDOW, 6\_/\_

BUFF .BLOCK 200

BUFF1 .BLOCK 200

2429

000000 A .END  
05335 R 005335 E \*E  
05336 R 005336 E \*E  
05337 R 005337 E \*E  
05340 R 005340 E \*E  
05341 R 005341 E \*E  
05342 R 005342 E \*E  
05343 R 005343 E \*E  
05344 R 005344 E \*E  
05345 R 005345 E \*E  
05346 R 005346 E \*E  
05347 R 005347 E \*E  
05350 R 005350 E \*E  
05351 R 005351 E \*E  
05352 R 005352 E \*E  
05353 R 005353 E \*E  
05354 R 005354 E \*E  
05355 R 005355 E \*E  
05356 R 005356 E \*E  
05357 R 005357 E \*E  
05360 R 005360 E \*E  
05361 R 005361 E \*E  
05362 R 005362 E \*E  
05363 R 005363 E \*E  
05364 R 005364 E \*E  
05365 R 000003 A \*L  
05366 R 004311 R \*L  
05367 R 000006 A \*L  
05370 R 000002 A \*L  
05371 R 000004 A \*L  
05372 R 777767 A \*L  
05373 R 000000 A \*L  
05374 R 004653 R \*L  
05375 R 000005 A \*L  
05376 R 004351 R \*L  
05377 R 000777 A \*L  
05400 R 077777 A \*L  
05401 R 000007 A \*L  
05402 R 004475 R \*L  
05403 R 000001 A \*L  
05404 R 777077 A \*L  
05405 R 125340 R \*L  
05406 R 000077 A \*L  
05407 R 000016 A \*L  
05410 R 000017 A \*L  
05411 R 004371 R \*L  
05412 R 400000 A \*L  
05413 R 200000 A \*L  
05414 R 100000 A \*L  
05415 R 040000 A \*L  
05416 R 020000 A \*L  
05417 R 000037 A \*L

05420 R 777001 A \*L  
05421 R 776000 A \*L  
05422 R 001777 A \*L  
05423 R 125336 R \*L  
05424 R 144000 A \*L  
05425 R 140000 A \*L  
05426 R 777770 A \*L  
05427 R 777766 A \*L  
05430 R 000020 A \*L  
05431 R 001757 A \*L  
05432 R 002020 A \*L  
05433 R 004431 R \*L  
05434 R 000014 A \*L  
05435 R 004441 R \*L  
05436 R 235177 A \*L  
05437 R 004455 R \*L  
05440 R 010000 A \*L  
05441 R 000764 A \*L  
05442 R 777777 A \*L  
05443 R 004523 R \*L  
05444 R 601451 R \*L  
05445 R 002423 R \*L  
05446 R 000011 A \*L  
05447 R 777776 A \*L  
05450 R 777775 A \*L  
05451 R 004617 R \*L  
05452 R 770000 A \*L  
05453 R 004652 R \*L  
05454 R 000013 A \*L  
05455 R 002263 R \*L  
05456 R 002263 R \*L  
05457 R 002263 R \*L  
05458 R 002263 R \*L  
05459 R 002263 R \*L  
05460 R 002263 R \*L  
05461 R 002263 R \*L  
05462 R 002263 R \*L  
05463 R 003000 A \*L  
05464 R 002433 R \*L  
05465 R 000010 A \*L  
05466 R 005053 R \*L  
05467 R 005052 R \*L  
05470 R 776001 A \*L

SIZE=05515

NO ERROR LINES

ABORT	00570	366	370	454*					
ABSENC	02222	91	1333*	1424					
ADDR	05253	470	473	479	482				
ALL	02562	1456	1462*						
ANGLE	00456	361	380*						
ANGTST	02765	1570	1577	1582	1587	1592	1596	1600	1603*
ARG1	04012	84	93	98	2171*				
ARG100	05254	2167	2171						
ARG3	01106	103	107	685*					
ARG4	04044	82	109	2197*					
ARG400	05255	2194	2197						
ARRFLG	05256	113	137	144	445	452	811		
ARROW	01221	330	544	777*	813				
BASEX	03230	1518	1533	1539	1555	1606	1612	1630	1768*
BASEXN	03234	1666	1672	1678	1696	1772*			
BASEX1	03232	1526	1544	1549	1559	1563	1770*		
BASEY	03231	1522	1568	1574	1590	1609	1620	1638	1769*
BASEYN	03235	1670	1675	1686	1704	1773*			
BASEY1	03233	1530	1579	1584	1594	1598	1771*		
BOTHN	03200	1735	1739	1743*					
BUFF	04653	146	322	328	329	367	388	408	430
		462	539	541	604	606	607	616	618
		620	1008	1178	1196	1253	1399	1403	1407
		1409	1481	1490	1869	1873	1919	1941	1946
		2091	2095	2100	2102	2124	2126	2130	2139
		2144	2146	2149	2237	2259	2262	2299	2427*
BUFF1	05053	368	436	2098	2133	2151	2172	2184	2198
		2218	2428*						
BUFF2	01155	703	706	728	733*	745			
BUFF3	01270	143	451	794	809	816	823*	835	
BUFF4	01200	752	756*	772					
BUTT	05257	136	154						
BUTTON	05335	41	124	236	875	963	1223	1227	
CALL	01147	708	709	717	718	723*	725		
CALL2	01172	254	255	648	649	747*	749	874	882
		894							
CFLAG	05260	149	219	331	385	396	433	454	529
		631	843	931	1922	1971	2076	2160	2264
CFLAG2	05261	150	1923	2205	2207				
CFLG	03412	1829	1860	1863	1884	1889*			
CNTR	05262	1945	1965	2087	2090	2105	2116	2129	2137
		2141	2148	2155	2261				
COMMON	03163	1651	1730*						
COMPAD	00005	68*	102	199	2277				
COMPT	02226	1261	1337*	1434	1847				
CONNAD	00006	69*	81	202	994	1235			
CONPT	02221	89	996	1192	1198	1237	1248	1255	1258
		1270	1332*	1388	1422	1426	1427	1431	1440
		1444	1445	1447	1448	1457	1465	1844	1852
COPPAD	00013	74*	884	2192	2229	2248			
COPPER	04122	1934	2248*						
COPYDN	02620	1496*	1506						
COPYIT	01771	1116	1168*						

COPYLP	02011	1186*	1189						
CORNER	00441	357	367*						
CPEOCP	04106	83	110	147	1920	2219	2236*		
CPEOCQ	05263	2231	2236	2355					
CROSS	04214	174	258	575	922	2032	2310*	2321	
CROSSS	02264	1145	1184	1190	1368*				
CROSS1	00751	347	572*	623					
CRSFLG	05264	145	548	2025	2311	2314			
CSCAN	05265	205	206	210	212	214	216	249	252
CTST	03405	1880	1884*						
CU	01410	158	915*						
CUT	04275	1956	1961	1998	2001	2007	2012	2367*	2374
CU1	01377	893	903*						
CU2	03671	1973	2087*						
CU3	04035	2162	2190*						
DELCR	00557	435	439	445*	459				
DELETE	01305	128	843*						
DELX	03222	1607	1622	1640	1673	1688	1706	1762*	
DELY	03223	1610	1614	1632	1676	1680	1698	1763*	
DESTRY	04175	534	1401	2186	2289	2291*	2305		
DFAD	05336	42	647	707	812				
DFADDR	05337	43	2341						
DFDEL	05340	42	139	253	447	716	873		
DFLPK	05341	41	181	849	997	1926			
DISFAD	05266	186	187	208	536	632	854	855	858
		863	897	903	905	907	909	910	1931
		1932	2081	2176	2188	2202	2253	2343	2344
		2345	2347						
DISNO	05267	200	201	457	900	2273	2275	2278	
DISPAD	02225	1194	1257	1336*	1383	1390	1459	1485	
DISWID	01047	230	637	644*	650				
DIV2	00727	469	478	494	504	512	522	550*	567
DRAW	00141	162*							
DRAWAL	02051	156	1218*						
DRAWCP	05342	41	444	458	525	865	901	1201	1326
		2180	2209	2256					
DRAW1	00112	131	136*						
DRAW2	02075	1238*	1247						
DRAW4	02214	1231	1324*						
DRAW5	00113	117	137*	1930					
DROR	02000	1141	1164	1166	1177*	1202			
DRWCON	02076	1233	1245*	1251	1323				
DSUBS	03277	1624	1642	1690	1708	1807*	1824		
EGGTES	03320	1096	1825*	1887	1888				
ENBUF	02422	1014	1181	1371*	1408	1491	1495		
END	00532	407	417	424*					
ENDPT	02204	1234	1309	1316*					
ENDTST	03363	1851	1864*						
ENTRY	00365	321*	940						
EOCONN	00007	70*	90	92					
EOCOPP	00014	75*	108	2190	2232	2243			
EOROUT	00012	73*	97	1136	1472	2163			
ERROR	01120	404	700*						

EX1	00105	126	132*	967					
FALG	05270	170	171	431	461	537	938	939	1937
		2045	2050	2062	2064	2181	2210	2211	2258
FINANG	03060	1652	1658	1663*					
FINCON	00174	189*	221	633	899				
FINCOP	02633	1500	1507*						
FIND	00213	204*	211						
FINISH	00476	359	396*						
FIRSTP	03376	1877*							
GETCON	02453	1002	1382*	1394					
GETCOP	04075	440	532	888	2220	2227*	2247	2252	
GETDF	02461	1386	1388*						
GETRUT	04144	881	1939	2266*	2290				
GETWID	01035	629*	638	857					
GILL	00553	441*	456						
GOTIT	03523	1963	1971*	2094					
GOTITT	01652	1057	1070	1080	1088*				
GOTRT	02466	1391	1393*						
GTRUT	02470	1393	1398*	1417					
IGRID	05343	43							
IND	02223	1334*							
INFILE	04231	2313	2320*						
INSFLG	02421	1370*							
IR17	05271	464	542	574	621	2044	2073		
IWIDTH	05344	43	228	242					
JTHSEG	02234	1012	1018	1030	1344*	1830			
KEYLP	02043	1212*	1216						
KEYS	04240	172	175	256	348	710	915	923	1924
		2046	2333*	2337					
KEYVAL	05272	173	176	179	180	257	349	353	354
		711	714	715	916	924	929	930	1124
		1153	1157	1158	1211	1214	1925	2047	2051
		2067							
KOMPT	03435	1894	1904	1908*					
KROZ	03215	1716	1724	1729	1748	1752	1756*		
LASTPT	03402	1872	1876	1881*					
LIBAD	00010	71*	105						
LOCSUB	03414	1260	1272	1846	1854	1891*	1893	1906	1907
LONG1	05273	295	301	302	308	309	315	589	595
LOOPM	01716	1125*	1155						
LOOPYC	04253	2346*	2351	2354	2357	2363			
LOOP1	00410	333	336	342*	379	384	387	395	549
		719							
LOOP2	03500	1949*	1966	2142	2265				
LOOP3	03603	2026*	2078	2082					
MANRUT	00002	1	38	65*	133	1327			
MANUAL	01472	972*							
MESS	05274	119	122	162	163	231	234	342	343
		844	847	868	871	917	920	957	958
		959	984	985	1117	1118	1203	1205	1218
		1219	1913	1916	2020	2023			
MESSA	02423	987	1372*	1915					
MESSB	02433	1375*	2022						



MESSC	02445	1207	1378*						
MESSD	04617	1120	2423*						
MESS1	05345	42	123	166	235	346	848	872	921
		962	988	1121	1208	1222	1917	2024	
MFLAG	05275	79	526	1163					
MF.101	05346	41	2315						
MINSTR	01616	1027	1060*						
MINUS	03275	1780	1782	1786	1793	1805*			
MLOOP	01706	1105	1111	1117*					
MOCNN	02101	1246	1248*						
MODFY	01444	153	528	950*	976	1001	1167	2070	
MODIFY	03436	965	1913*						
MSFLAG	00001	47*	47	114	955	1918	2056	2061	2214
MULT	03236	1615	1623	1633	1641	1681	1689	1699	1707
		1774*	1794	1804					
M/DEL	01673	1091	1106*						
N	00016	77*	115	151					
NAWLUS	03334	1836	1839*						
NCONN	02220	1245	1331*	1385	1430				
NCROSS	02251	1357*							
NEXT	03517	1959	1964*						
NOCHEK	00274	229	238	256*					
NOD	05276	261	276	690	1897	1905			
NOINS	01540	1007	1012*						
NOKER	03217	1553	1566	1588	1601	1662	1715	1723	1728
		1738	1742	1751	1755	1758*			
NOPE	03411	1862	1867	1879	1883	1888*			
NOPTH	02164	1282	1284	1295	1300*				
NOTHIS	01643	1032	1052	1056	1081*				
NOTPS1	02705	1537	1554*						
NOTPS3	02750	1572	1589*						
NPTS	02246	1252	1285	1300	1307	1354*	1404	1406	1834
NWORDS	05277	1183	1188						
NXTCOM	02455	1384*	1387						
NXTCON	02456	1385*	1392						
NXTSEG	01541	1013*	1087						
N1	05300	971	978	983	1005	1025	1089	1109	
OFF	02263	1367*							
OK	00507	398	401	405*					
OLCROS	02254	1360*							
OLVAL	05301	1402	1477						
ONEFLG	05302	975	1454						
OTHCOM	02227	1273	1338*	1443	1855				
OTHNOD	03347	1852*	1886						
OTHSD	02253	1086	1113	1359*					
OUT	01767	1011	1103	1162	1166*	1174	1217		
PACK	03761	432	465	538	617	2055	2143*	2183	2189
		2217	2221						
PACKIT	03635	1943	1967	1986	2055*				
POZZ	03256	1785	1790*						
PPTR	05303	682	689						
PTR	03413	1890*	1892	1895					
PTR1	05304	218	262						

PTR2	05305	195	197	278						
PT1	02634	1492	1496	1498	1502	1508*				
PT2	02635	1494	1497	1503	1505	1509*				
PUSBUT	00000	46*	46	118	956					
PUTBAK	01614	1015	1058*							
PUTIN	01671	1094	1104*							
QUOT	03260	1778	1792*							
RARG1	01741	1144*								
RARG10	05306	1140	1144							
RARG3	01743	100	1146*							
RARG6	01746	86	1149*							
RARG7	01747	95	1150*							
READRT	05347	41	1142	2234	2296					
REDROR	00675	516	519	524*						
RELES	01713	1122*								
REMSID	02235	1345*								
REPLAC	01363	877	891*							
RETT	01513	989*	1059							
ROUTAD	00011	72*	78	80	1138	1471	2165	2293		
RRITE	02570	1058	1195	1322	1470*	1486				
RS2	703022	1122	1151	1209	1212	1909*				
RTATE	03701	2089	2095*							
RTOFRT	04204	85	94	99	148	1400	1921	2185	2298*	
RTPTDF	02533	1249	1389	1439*	1464	1467				
RUETED	02565	1461	1465*							
RUOFRT	05307	2295	2298							
RUTGAP	02611	1104	1489*	1507						
RUTPTR	05310	441	887	1137	1148	1453	1462	2164	2191	
		2203	2228	2240	2251	2288	2292	2302		
SAMX1	03175	1732	1740*							
SAMX2	03212	1745	1753*							
SARG1	03427	104	1902*							
SARG2	03430	106	1903*							
SCALE	05350	41	557							
SCALUP	05351	42	781	1955	1997	2006				
SCAN	05311	191	193	225	245	248	259	273	274	
		277	535	634	859	878	891	895	898	
		908	1938	2079	2177	2187	2267	2269	2271	
		2279	2280	2282	2283					
SEARCH	03453	1926*								
SHIFT	05312	2233	2245	2246	2361					
SIDE	02247	1017	1085	1098	1112	1355*				
SIDE1	05313	270	334	392	669	672	1265	1280	1296	
		1310	2107	2118						
SIDE2	05314	286	399	671	674	1277	1283	1299	1316	
SIGN	05315	551	555	562						
SOLD	02224	1335*								
SPTER	02250	1020	1102	1106	1108	1130	1168	1356*	1499	
START	00063	114*	185	453	853	883	890	902	911	
		928	946	1226	1230	1425	2069			
START1	00017	67	78*							
STATUS	05316	352	355	1156	1159					
STOFLG	02252	972	981	1092	1358*					

SUBCON	02514	977	1232	1238	1384	1428*	1435		
SUBNOD	05352	42	683	1898					
SUMNZ	03054	1656	1659*						
SUMNZ2	03156	1720	1725*						
SUM1	03224	1616	1625	1634	1648	1653	1660	1682	1691
		1700	1717	1726	1764*	1810	1811	1816	1822
SUM2	03225	1618	1627	1636	1649	1654	1684	1693	1702
		1718	1765*	1819	1820				
SWOP	01442	130	945*	969					
SWOPIT	04305	339	394	945	2380*	2382			
SWOPS	02160	1279	1296*						
SWOPSD	05353	42	2381						
SWOP1	01056	317	656*	675					
SYDE	04310	112	337	402	411	418	424	610	2383*
TAG	01011	582	601	604*					
TEMP	05317	2359	2360	2362					
THRU	00463	363	385*						
THTSAL	00540	430*							
TOP	03276	1795	1800	1806*					
TOTNZ	03046	1646	1653*						
TOTNZ2	03146	1712	1717*						
TOT1	03226	1626	1643	1659	1692	1709	1725	1766*	
TOT2	03227	1628	1644	1694	1710	1767*			
TRACK	05354	43	950	989	1125	2320			
TYPE	05320	321	374	380	383	405	580	583	600
		1974	1990	2028	2035	2071			
UGH	02032	1097	1115	1203*					
UPDATE	04245	889	2257	2340*	2348				
VALID	05321	974	1088	1204	1475				
VERT	03543	1981	1987*						
WARG1	02602	1191	1197	1480*					
WARG10	05322	1474	1480						
WARG3	02604	101	1482*						
WARG4	02605	87	1483*						
WARG5	02606	96	1484*						
WIDSTO	01214	646	768*						
WINDOW	00576	365	461*	1165					
WRITRT	05355	41	1478	2169	2195				
XA	02244	1022	1081	1127	1132	1170	1289	1312	1352*
		1538	1548	1554	1562	1629	1671	1730	
XCROSS	04236	168	290	303	466	467	546	576	700
		701	932	2010	2033	2318	2322	2327*	
XINC	05323	685	693						
XL1	02261	1365*							
XN	02240	1036	1082	1348*	1412	1532	1543	1558	1611
		1663	1743						
XNR	02242	1350*	1413						
XOVER	02636	1068	1078	1513*	1757	1759			
XP	02257	991	1033	1060	1071	1266	1286	1318	1363*
		1870	1900						
XPEN	05356	42	1957						
XP1	02255	1040	1053	1267	1287	1303	1361*		
XSEG	00524	410	418*						

XS1	05324	1999	2008	2110	2120				
XU	05357	41	474	475	488	493	505		
XX	02230	65	189	550	572	629	644	656	681
		723	724	747	748	777	1064	1072	1177
		1339*	1382	1398	1420	1439	1470	1489	1513
		1515	1677	1733	1746	1774	1807	1825	1891
		2143	2227	2266	2291	2310	2333	2340	2367
		2380							
XX1	02232	1062	1073	1341*	1523	1605	1695	1731	1744
XY	01102	263	279	681*	694				
XZ	02236	1346*							
X0	05360	41	471	472	497	499	502		
X1	05325	264	292	324	376	413	584	602	657
		660	933	1950	1954	1980	1996	2034	2038
X2	05326	280	305	420	426	659	662	780	934
		1979	2005						
X3	05327	375	577	586	603	612			
YA	02245	1024	1083	1128	1134	1172	1293	1314	1353*
		1573	1583	1589	1597	1637	1674	1736	1740
YCROSS	04237	169	296	310	476	547	578	704	935
		2015	2040	2319	2323	2328*			
YEIGHT	04455	919	2406*						
YELEVEN	04523	961	2413*						
YFOUR	04371	345	2396*						
YINC	05330	686	691						
YL1	02262	1366*							
YN	02241	1044	1084	1349*	1415	1567	1578	1593	1619
		1667	1749	1753					
YNINE	04475	233	2409*						
YNR	02243	1351*	1416						
YONE	04311	121	2389*						
YP	02260	992	1041	1065	1075	1268	1290	1320	1364*
		1874	1901						
YPEN	05361	42	1962						
YP1	02256	1048	1049	1269	1291	1305	1362*		
YSEVEN	04441	870	2403*						
YSIX	04431	846	2400*						
YS1	05331	2002	2013	2113	2122				
YTEN	04577	1221	2420*						
YTEST	02722	1535	1542	1547	1552	1557	1561	1565	1567*
YTHREE	04351	165	2393*						
YTWELV	04565	2417*							
YU	05362	41	483	484	506	511	523		
YUP	03410	1841	1859	1887*					
YY	02231	1066	1077	1340*	1519	1685	1737	1750	
YY1	02233	1067	1074	1342*	1527	1608	1703	1741	1754
YZ	02237	1347*							
Y0	05363	41	480	481	515	517	520		
Y1	05332	266	298	326	378	422	590	598	663
		666	936	1952	1984	1994			
Y2	05333	282	312	415	428	665	668	778	937
		1983	1988	2003					
Y3	05334	377	579	592	599	614			

ZFLG	03221	1603	1647	1657	173	1761*	1828	1832
		1837	1838	1839	164	1877	1881	
ZWOP	01505	980	983*					
ZYDE	00015	76*	111					
.DA	05364	42	66					

## MANRUT

MOD #1    BUTTON 3 IN ROUTINE MOD RT CHANGED  
751006/MB TO SIDES. THIS MOD ALLOWS THE OPERATOR  
TO SWOP SIDES WITHOUT CHANGING MAIN  
ROUTINE AND PREVENTS SECURITY DUMPS.